

THE ROLE OF EMERGENCY RESPONSE MANAGEMENT IN MAINTAINING WORKPLACE SAFETY

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Abstrak

Keywords:

Emergency Response Management, Occupational Health and Safety, Risk of Work Accident, Standard Operating Procedures (SOPs)

Occupational safety and health (OHS) is a fundamental aspect that must be guaranteed in every work environment, especially in sectors with a high risk of accidents or emergencies. Emergency response management is an important element in the OHS system that plays a role in preventing, responding to, and minimizing the impact of unwanted events such as fires, chemical spills, explosions, and natural disasters. This study aims to analyze the role of emergency response management in improving occupational safety through literature studies from various sectors. The research method used is descriptive qualitative with a literature study approach, reviewing ten main articles selected from 8,000 initial articles based on inclusion and exclusion criteria. The results of the analysis show that the effectiveness of emergency response management is greatly influenced by the readiness of the organization in forming a special team, preparing standard operating procedures (SOPs), and conducting routine training. Studies in the maritime, construction, chemical industry, and health facility sectors confirm that emergency response training, the formation of special teams, and the preparation of SOPs contribute significantly to improving occupational safety and compliance with procedures. This finding confirms that emergency response management not only fulfills regulatory aspects, but also becomes a strategic need in creating a safe and productive work environment, as well as increasing worker and public trust in institutions.

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INTRODUCTION

Occupational safety and health (OSH) is a fundamental aspect that must be guaranteed in every work environment, especially in sectors that have a high potential risk of accidents and emergencies. In this context, emergency response management is one of the important elements in the OHS system that plays a role in preventing, responding to, and minimizing the impact of unwanted events, such as fires, chemical spills, explosions, or natural disasters.

According to the International Labor Organization (ILO), every year there are more than 2.78 million work-related deaths and approximately 374 million non-fatal injuries in the workplace. This data confirms that without effective risk management, including emergency response, worker safety will be highly vulnerable. Emergency response management includes the readiness of safety equipment, the formation of specialized teams, the preparation of standard operating procedures (SOPs), and periodic training for all workers to be able to act quickly and appropriately in the event of an emergency.

However, there are still many companies and institutions that have not implemented emergency response management optimally. Lack of training, limited early detection tools, and the absence of clear SOPs are factors that hinder the effectiveness of emergency response systems (Suseno et al., 2024). Therefore, this study is important to examine in more depth how emergency response management plays a role in maintaining workplace safety and how best practices from various sectors can be more widely adopted.

The purpose of this research is to analyze the role of emergency response management in improving work safety through literature studies from various sectors, and provide recommendations for effective implementation strategies. This research is expected to be a reference for company management, policy makers, and OHS practitioners in strengthening a work safety system that is resilient and responsive to various emergency conditions.

LITERATURE REVIEW

Emergency response management is an integral part of the Occupational Safety and Health (OHS) system that plays an important role in reducing the risk of work accidents, asset losses, and ensuring operational continuity in the workplace. Various studies show that the effectiveness of emergency response management is strongly influenced by the readiness of the organization to form a special team, develop standard operating procedures (SOPs), and conduct regular training.

Pransiska et al. (2021) stated that the safety management system in the maritime sector is highly dependent on the readiness and effectiveness of emergency response management, especially in dealing with high-risk conditions such as on board a ship. The same thing was found by Tambunan et al. (2023) who showed that effective emergency response training in the construction sector can minimize the risk of accidents and increase workers' compliance with safety procedures.

Emergency response management is a systematic set of actions designed to anticipate, respond to and recover from emergency situations to minimize the impact on the safety of lives and assets. Key elements of this system include emergency planning, regular training, risk communication and post-event evaluation. The implementation of a

comprehensive emergency response system is proven to create a strong safety culture in the workplace.

The active involvement of workers and management leadership are important factors in improving the effectiveness of emergency response implementation. The higher the involvement of these two parties, the greater the chance of success in responding to emergencies. Organizations that are committed to safety generally develop emergency response systems proactively, not just to meet regulatory obligations, but as a strategy for protection and operational sustainability.

Regulatively, emergency response systems have become an important part of internationally and nationally recognized occupational safety standards. In Indonesia, companies are required to have emergency preparedness through continuous planning and training as part of work safety management. This preparedness plays a major role in reducing the number of accidents and minimizing disruption to the production process and public services.

Companies that integrate emergency response management into their overall OHS system tend to have lower rates of workplace accidents, increased compliance with safety procedures, and build trust with their workforce and the community.

Overall, the literature shows that the successful implementation of emergency response management depends on the synergy between policies, training, provision of facilities, and the active involvement of management and workers. This confirms that emergency response management is not only a regulatory obligation, but also a strategic necessity in creating a safe and productive work environment.

RESEARCH METHODS

This research uses a descriptive qualitative approach with a literature study method to explore the role of emergency response management in maintaining safety in the workplace. The data in this study were obtained through a search of scientific articles conducted using the Google Scholar search engine with the keyword "*The Role of Emergency Response Management in Maintaining Workplace Safety*". The initial search results produced as many as 8,000 articles. Furthermore, a filtering process was carried out based on the title and abstract, so that the remaining 2,430 articles were considered relevant.

Further screening was carried out using inclusion and exclusion criteria. The inclusion criteria used include articles published within the time span of 2020 to 2025, discussing emergency response management in the context of work safety in various sectors such as industry, construction, health facilities, and transportation, and are available in full-text and written in Indonesian or English. Meanwhile, the exclusion criteria included articles that did not directly address emergency response management, as well as articles that were not peer-reviewed or did not meet academic quality.

After a rigorous selection process, ten main articles were obtained for further analysis. The data analysis technique used was content analysis, by reviewing and categorizing the main findings of each article. The focus of the analysis included forms of emergency response management interventions, such as the formation of emergency response teams, the preparation of standard operating procedures (SOPs), routine training, as well as the impact of these interventions on improving occupational safety. The results of this analysis form the basis for drawing conclusions about the contribution of emergency response management to labor protection and operational safety in various

sectors.

RESULTS AND DISCUSSION

Based on the search results on Google Scholar using the keyword "The Role of Emergency Response Management in Maintaining Safety in the Workplace", there were 8,000 Google Scholar articles (n= 8,000) that were right with these keywords. The research method used is Cross-sectional, literature review, descriptive quantitative, and case control is the research method used. These books and journals were published from 2020 to 2025 and written in Indonesian and English. The results of the literature search in accordance with these keywords produced

5,240 articles (n=5,240). These articles were then screened based on the abstracts, resulting in 2,430 articles (n=2,430). In addition, some journals were evaluated for full text eligibility based on inclusion and exclusion criteria, resulting in 10 articles (n=10). After that, the collected articles were re-selected and described and analyzed in depth.

No.	Writer (year)	Judul Penelitian	Research Title	Research Result
1.	Eka Pransiska, Muhammad Nur, Sulastri Mutiara Simarmata (2021)	The Role of Ship Safety Management System in Supporting Work Safety at PT. MITSU Citra Mandiri Belawan	Descriptive Qualitative	The results confirmed that the success of the ship safety management system is highly dependent on the readiness and effectiveness of emergency response management.
2.	Nathaline Tambunan, et. al (2023)	Implementation Safety Management System and Occupational Health (K3) in the Field of Work	Descriptive Qualitative	The results showed that the implementation of Emergency Response Management training in the revitalization project of SMA Negeri 5 Medan has been running effectively and in accordance with applicable regulations. Thus, there were no work accidents, illnesses as a result of work, as well as incidents that caused loss of working days. This reflects that the implementation of OHS at the project site is very good, with the level of labor compliance with the OHS. high safety procedures.
3.	Pratama Sandi	Industrial	Qualitative	This research shows that

	Alala, et. Al (2022)	Management in the Implementation of Hazardous and Hazardous Waste Emergencies at PT. X		PT X has implemented a structured and comprehensive hazardous and toxic waste (LB3) emergency management system. The company formed an Emergency Response Team (TTD) as an anticipatory measure against potential emergencies such as chemical spills, fires, explosions, or leaks of hazardous substances that could endanger workers, the community, and the surrounding environment. The role of emergency response management proves crucial in maintaining the safety of the workforce and the community. With a dedicated team and regular training, potential hazards can be detected and addressed early, reducing the risk of injury, death or damage. environment.
4.	Aliyah Rifdha, et.al, (2024)	Response Preparedness Analysis Emergency Preparedness Analysis Fire and Hospital Management Commitment in Indonesia	Descriptive Qualitative	The results showed that active management in forming a response team, developing SOPs, providing safety equipment, as well as providing safety equipment for the management of the team. conducting regular training, it has been proven that improving hospital resilience to fire disasters and protecting human lives as a priority key occupational safety and health services.
5.	Siti Hamurwani, Hanifa Maher Denny (2021)	Safety Implementation Analysis and Occupational Health	Qualitative	The results of this study emphasize that emergency response management is an integral part of

		during the Covid-19 Pandemic For Employees at Hospital X Karanganyar Regency		occupational safety efforts in health care facilities, especially in the face of The pandemic is full of uncertainties.
6.	Sapto Suseno, et.al (2024)	Strategies of Fire OHS Specialist Supervisors in Supervision and Training of Fire Fighting Units in an Effort to Minimize Fire Hazards at Workplace at the Provincial Manpower and Transmigration Office East Java	Analytical Descriptive Qualitative	The results show that although some companies have provided fire extinguishers such as fire extinguishers and hydrants, many are still not effective in their application. This is due to the lack of emergency response training for workers and the absence of early detection systems such as automatic alarms. The results of this study confirm that emergency response management plays a very important role in fire safety. maintain worker safety.
7.	Welnita, et.al (2024)	Analysis of Health Center Preparedness for Fire Disaster Emergency Response	Descriptive Qualitative	This study found that when emergency response management is implemented properly, the risk of injury, asset loss, and disruption of health services can be minimized. This shows that existence of the system Effective emergency response is not only a form of regulatory compliance, but also an assurance of safety for workers, patients, and the public. Around.
8.	Alif Araafi, et.al (2024)	Preparedness Analysis In Health Care Facilities Health Service Facilities for Fire Disaster Emergency Response Fire Disaster Emergency Response	Literature Review	This study found that the existence of emergency response management is proven to be able to reduce the potential for casualties, minimize material losses, and ensure the continuity of service operations. In

				workplaces such as health centers or hospitals, this system not only protects health workers, but also patients and the community who use the service.
9.	Rosalinda, et., al (2024)	Analysis Management Readiness HSE Management Analysis Indramayu Steam Power Plant (PLTU) In Facing Emergencies	Descriptive Qualitative	Research conducted at the Indramayu Steam Power Plant (PLTU) shows that the readiness of K3L (Safety, Occupational Health and Environment) management in dealing with emergencies is in a very good category, with an average percentage of 88.9%. With a good understanding and implementation of the emergency response system, PLTU management not only protects the lives of workers, but also the environment. ensure the continuity of the company's operations.
10.	Judea Satrio, et., al (2021)	Safety Management Analysis and Health Work at Fire Emergencies in Mass Rapid Transit (MRT) Jakarta	Descriptive Qualitative	This research confirms that emergency response management structured not only prevents loss of life and damage to assets, but also creates a sense of security and increases worker and public confidence in the organization, safety in the work environment.

Various studies have shown that emergency response management has a significant contribution to improving work safety in various sectors. Eka Pransiska et al. (2021) emphasized that the ship safety management system is highly dependent on the readiness and effectiveness of emergency response management. This finding reinforces the importance of a quick and structured response in preventing work accidents in the maritime environment.

In the context of construction projects, Tambunan et al. (2023) showed that the implementation of emergency response training effectively reduced the risk of work accidents. This shows the close relationship between emergency training and compliance with work safety procedures.

The study by Alala et al. (2022) in the chemical industry sector also supports these findings, where the formation of an emergency response team (ERT) accompanied by regular training is able to detect and handle potential hazards early. Similarly, Rifdha et al. (2024) in the health care sector showed that active management in the preparation of SOPs, training, and procurement of safety equipment can increase the resilience of institutions to disasters such as fire.

Research during the COVID-19 pandemic by Hamurwani and Denny (2021) emphasized that emergency response management readiness plays an important role in maintaining work safety in healthcare facilities, given the uncertain working conditions. Meanwhile, Suseno et al. (2024) noted that the lack of training and early detection systems were barriers to the effectiveness of emergency management, despite the availability of extinguishers.

Furthermore, Welnita et al. (2024) and Araafi et al. (2024) confirmed that an effectively integrated emergency response system not only fulfills regulatory aspects, but also reduces the risk of injury and material loss. This reflects the importance of emergency response management as an integral part of the safety culture in healthcare institutions.

Research by Rosalinda et al. (2024) showed high readiness of PLTU HSE management in dealing with emergencies, with an average readiness score of 88.9%. Finally, Satrio et al. (2021) highlighted that a good emergency response management structure can increase worker and public confidence in safety in work environments such as the Jakarta MRT.

Overall, the literature is consistent in finding that the existence of a good emergency response management system through training, SOPs, specialized teams, and supporting facilities is positively associated with improved work safety and protection of workers, service users, and the community.

CONCLUSIONS

This research confirms that emergency response management plays a vital role in maintaining and improving workplace safety. Effective implementation, including the establishment of emergency response teams, the development of SOPs, routine training, and the consistent provision of supporting tools and facilities, has been proven to reduce the risk of workplace accidents and increase institutional resilience to emergencies in various sectors, such as industry, construction, health, and transportation. Literature studies show that the success of emergency response management is highly dependent on the synergy between policies, training, provision of facilities, and active involvement of management and workers. Barriers that are still found in the field include the lack of training, limited early detection tools, and the absence of clear SOPs. Therefore, management commitment and worker participation are necessary to build a strong safety culture. The practical implication of these findings is the need for companies and institutions to regularly evaluate emergency response readiness, strengthen training, and adopt best practices from various sectors. The limitation of this study lies in the scope of data that only comes from selected literature and has not explored field data directly. For future research, it is recommended to conduct empirical studies in various sectors to enrich evidence and identify challenges in implementing emergency response management at the operational level.

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