

# Evaluation of the Implementation Fire Emergency Response in Hospital of Jombang District

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## Abstract

The decision of Health minister of Indonesia Republic Number 1087/MENKES/SK/VIII/2010 about health standard and work safety in hospital, point out that one of the health program and work safety to be performed in a hospital is the development of emergency management which aim to avoid the risk of fire hazards that can cause physical damage to buildings, disability and even death for the occupants (patients) belonging to physical weakness, visitors and workers who present in hospital environment. This study aims to evaluate the implementation of fire emergency in Jombang Hospitals District on the fulfillment of standards based the decision of Health minister of Indonesia Republic Number.1087/Menkes/SK/VIII/2010 on occupational safety and health standards in hospital. This study is an observational study with cross sectional approach where the sample was determined by using simple random sampling method in which each member of the population being randomly and have equal opportunity to be sampled, so that the number of samples obtained as many as 68 people. The data collected by using questionnaires, observation and inspection of creating check list in the form of a list. Data processing is performed by means of descriptive analysis and correlation analysis by using the chi-square test. The result of study obtained from 68 respondents to the evaluation of the implementation of the fire emergency response toward on the fulfillment of standards based on the decision of health minister of Indonesia republic number.

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1087/Menkes/SK/VIII/2010 by using chi-Square test knowledge variable obtained  $p=0.000 < \alpha (0.05)$  have a relationship, tenure  $p=0.001 < \alpha (0.05)$  have a relationship, training and simulation  $p=0.002 < \alpha (0.05)$  have a relationship, emergency response organizations  $p=0.032 < \alpha (0.05)$  have a relationship, guidelines for implementation of fire emergency  $p \text{ value}=0,032 < \alpha (0.05)$  have a relationship, and the identification of areas where fire danger  $p=0.032 < \alpha (0.05)$  have a relationship, human resources in the field of fire K3  $p=0.002 < \alpha (0.05)$  have a relationship, dissemination and application of emergency procedures  $p = 0.002 < \alpha (0.05)$  have a relationship, fire fighting team  $p=0.049 < \alpha (0.05)$  have a relationship, fire investigations and reporting guidelines  $p=0.032 < \alpha (0.05)$  have a relationship. While the results of observation inspection of fire equipment and infrastructure on the level of achievement of conformity obtained Apar (86.67%), fire hydrant (83.33%), fire alarm (80%), the detector (20%), and the sprinkler (0%), due to the tool is not installed in the hospital, where gathered (100%), emergency lighting (80%), emergency stairs (30%), user sign exit (16.67%) and emergency exit (0%).

**Keywords:** evaluation; implementation of fire emergency response; Jombang Hospital District.

## 1. Introduction

Hospital is a health care institution provided for the communities with the main activities as medical care preventive, curative and rehabilitative. In addition, to providing care and treatment required quality, hospitals are required to implement and develop the Health and work Safety in the Hospital (K3RS). This is due to hospitals work in Indonesia is considered to have a high risk to the health and safety of the doctors, nurses and technicians who subsequently have an impact on patients and the surrounding community, including visitors [1].

Health and work safety in hospital there has been a main priority until now, but the potential danger in the hospital is high enough. Potential hazards that can occur in hospitals can be caused by some various factors, including biological factors such as viruses, bacteria, fungi, parasites, chemical factors such as antiseptics, reagents, anesthetic gases, factors ergonomics such as work environment, work methods, and wrong working positions, physical factors such as temperature, light, noise, power, vibration, radiation and psychosocial factors such as job rotation, workload, relationships among workers. In addition, these factors also become a potential hazard that could influence the hospital situation when a fire that can threaten life of employees, patients and hospital visitors [2].

One of the workplace whom has an increased risk of fire hazard is the hospital. The risks of fire occurring in hospitals have the highest ratings compared to another places. This is because of the hospital is a place whose inhabitants are sick people who are less able to physically and have limited motion in activity. So that, if there is a fire inside of the hospital, they would not be able to escape of the fire hazard that can ultimately lead to loss of material, disability and even death for patients are treated in the hospital [3].

Based on preliminary studies in Jombang Hospitals and after conducting interviews with the Chairman of K3RS shows that unprecedented fires have done since 1930, but in 2014 the results of events fire in Drug Recipient Contribution Counter of Jombang Hospital by the area 3x6 meters happened on 19 November 2014 at 23:30 pm.

The documents showing reports inspection and assessment of fire events that have been implemented by the K3RS in Jombang Hospitals District Management. The cause of a fire in the room comes from the empty water dispenser but still ignited, causing sparks due to electric short circuit that caused the fire, time of inspection after the fire incident in Drug Recipient Contribution Counter room of Jombang Hospital where fires did not cause casualties.

Results of subsequent interviews with the Chairman of K3RS Jombang that pursuant to the decision of the General Director of Jombang Hospital District No. 188.4/3681/415.44/2011 on Guidelines Safety, Fire, and Precautions Disaster General Hospital of Jombang that within the guidelines already have been established by Fire Organizational Structure in Jombang Hospital since 2011, but the implementation of fire emergency in the hospital has not been implemented properly, it causes the roles and functions of the fire organization in Jombang Hospital District not optimally carry out their duties and functions in the prevention and control of fire in hospital, Fire incidents in Drug Recipient Contribution Locket in Jombang Hospitals District needs special attention, especially to the emergency response system that has been established by K3RS during this time, so that the incidence of fires in the Counter of Drug Recipient Contribution can be analyzed early and need to be revisited how far the organization fires was in the hospital to perform their role and functions in the implementation of fire emergency in Jombang Hospitals. Thus, the incidence of fires in the Counter of Drug Recipient Contribution Jombang General Hospital District showed the weakness of fire emergency response system that already established in Jombang Hospitals. These conditions causes the emergency response system of fire safety in hospital buildings should always be inspected and checked at regular intervals by means of early detection of preparedness of emergency management, completeness, compliance and facility conditions, ways of working, environmental and procedures relating to the fire. In addition, the inspections should also be planned and carried out by a competent people as K3 officers, emergency response personnel or using external parties [4].

[5] there were 10 basic elements of emergency response needs to be applied in hospitals including coaching and training resources, policy management, identification of emergency, the initial planning (preplanning), emergency procedures, the organization of emergency, facilities and infrastructure emergency, communication, inspections and audits and investigations and reporting. The final results of this study are expected to provide solutions to the problems of fire, especially in the hospitals in the implementation of fire emergency hospital based the decision of Health minister of Indonesia Republic Number. 1087/Menkes / SK/VIII//2010 on Occupational Safety and Health Standards Hospital, so that, the danger fires can be prevented and avoided as early as possible in the hospital by the application and development of fire emergency program to support the implementation of fire emergency in the hospital well. Based on the case above, it is necessary to evaluate compliance of the implementation of fire emergency in Jombang Hospitals District based the decision of Health minister of Indonesia Republic Number. 1087/Menkes/SK/VIII//2010 on Occupational Safety and Health Standards Hospital.

## **2. Methods**

This study uses a quantitative method with cross sectional design that aims to observe and analyze the situation

at a certain time of the evaluation of the implementation of fire emergency in Jombang Hospitals District. Data were collected using a questionnaire and asked questions. While the observation is conducted by inspection in using a list of check list. Data processing is conducted by correlation analysis using the chi-square test. The populations of this study were all employees in Jombang Hospitals designated as an officer and a team of fire that totaled 85 people, where the sample using simple random sampling method in which each member of the population has an equal opportunity to be sampled so that the number of samples obtained as many as 68 people.

### 3. Discussion

**Table 1:** Relationship of Officer Knowledge toward Team Fire toward Fire Emergency Response Implementation at the General Hospital of Jombang District

Knowledge	Implementation of Fire emergency response				Totally		p
	Good		less				
	n	%	n	%	n	%	
High	45	95,7	2	4,3	47	100	0,000
Medium	2	9,5	19	90,5	21	100	
Low	0	0	0	0	0	100	
Totally	47	30,9	21	69,1	68	100	

Table 1 shows that the level of knowledge respondents with high category as many as 45 people (9.7%) with the implementation of fire emergency good, moderate category as many as 2 (9.5%) with the implementation of the emergency response and fire both the low category does not exist ( 0%), while respondents with high category as many as 2 (4.3%) with less fire emergency response, categories were as many as 19 people (90.5%) with less fire emergency response, and low categories none (0%) with the implementation of fire emergency response less. Results of statistical test by Chi-Square was obtained  $p=0.000$  for significant  $p$  value =  $0,000 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between the level of knowledge workers and fire teams with the implementation of fire emergency in Jombang Hospitals District.

Table 2. Shows that the respondents have a service life of > 5 years as many as 25 people (92.6%) with the implementation of the fire emergency response either category, length of > 5 years as many as 2 (7.4%) with the implementation of the emergency response of fire category less, while respondents who have tenure < 5 years as many as 22 people (53.7%) with the implementation of the fire emergency response either category, length of < 5 years as many as 19 people (46.3%) with the implementation of the emergency response of fire category less. Results of statistical test by Chi-Square was obtained  $p = 0.001$  due to the significant value of  $p = 0.001 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between working period and team officials fire with fire emergency response in Jombang Hospitals.

**Table 2:** Relationship of Officer Work Period toward the Fire Team Emergency Response Implementation at the General Hospital of Jombang District.

Work Period	Implementation of Fire emergency response				Totally		p
	good		less				
	n	%	n	%	n	%	
> 5 years old	25	92,6	2	7,4	27	100	0,001
< 5 years old	22	53,7	19	46,3	41	100	
Totally	47	69,1	21	30,9	68	100	

**Table 3:** Relationship of Officer Training and Simulation toward Implementation of Fire Emergency Response Team at the General Hospital of Jombang District

Officer Training and Simulation	Implementation of Fire emergency response				Totally		p
	Good		Less				
	n	%	n	%	n	%	
Yes	47	73,4	17	26,6	64	100	0,002
No	0	0	4	100	4	100	
Totally	47	69,1	21	30,9	68	100	

From Table 3 shows that respondents who had attended training and simulation of fire as many as 47 people (73.4%) with the implementation of the fire emergency response either category, respondents who had attended training and simulation of fire as many as 17 people (26.6%) with implementation fire emergency response less category, while respondents who have never attended a training and simulation fires no (0%) with the implementation of the fire emergency response either category or respondents who had never attended training and simulation fire as many as 4 people (100%) with the implementation of fire emergency response in less category. Results of statistical test by Chi-Square was obtained  $p = 0.002$  due to the significant value of  $p = 0.002 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between training and simulation fire with fire emergency response in Jombang Hospital District.

Table 4 shows that respondents who know fire emergency response organizations as many as 47 people (71.2%) with the implementation of the fire emergency response either category or respondents who know fire

emergency response organizations as many as 19 people (28.8%) with the implementation of fire emergency response in less category, while respondents who knew no structure fire emergency (0%) with the implementation of the fire emergency response either category or respondents who knew no organization of fire emergency by 2 people (100%) with the implementation of the emergency response of fire category less, Results of statistical test by Chi-Square was obtained  $p = 0.032$  due to the significant value of  $p = 0.032 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between the fire emergency response organizations with the implementation of fire emergency in Jombang Hospitals District.

**Table 4:** Relationship of Emergency Response Organization Fire toward Fire Emergency Response Implementation at the General Hospital of Jombang District

Organization Fire of Emergency Response	Implementation of Fire emergency response				Totally		p
	Good		Less		n	%	
	n	%	n	%			
Yes	47	71,2	19	28,8	66	100	0,032
No	0	0	2	100	2	100	
Totally	47	69,1	21	30,9	68	100	

**Table 5:** Relationship of Emergency Response Guidelines toward Implementation of Fire emergency response at the General Hospital of Jombang District

Emergency Response Guidelines	Implementation of Fire emergency response				Totally		p
	Baik		Kurang		n	%	
	n	%	n	%			
Yes	47	71,2	19	28,8	66	100	0,032
No	0	0	2	100	2	100	
Totally	47	69,1	21	30,9	68	100	

Table 5 shows that respondents who know fire emergency response guidelines as many as 47 people (71.2%) with the implementation of the fire emergency response either category or respondents who know fire emergency response guidelines as many as 19 people (28.8%) with the implementation of fire emergency response less category, while respondents who knew no guidelines for emergency response of fire (0%) with the

implementation of the fire emergency response either category, respondents who knew no guidelines for fire emergency by 2 people (100%) with the implementation of the emergency response of fire category less. Results of statistical test by Chi-Square was obtained  $p = 0.032$  due to the significant value of  $p = 0.032 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between the fire emergency response guidelines for the implementation of fire emergency in Jombang Hospitals District.

**Table 6:** Relationship of Points Identification and Fire Area toward Fire Emergency response in the General Hospital of Jombang District

Points Identification and Fire Area	Implementation of Fire emergency response				Totally		p
	Good		Less		n	%	
	n	%	n	%			
Yes	47	71,2	19	28,8	66	100	0,032
No	0	0	2	100	2	100	
Totally	47	69,1	21	30,9	68	100	

Table 6. Indicates that respondents who know the mapping area and installed a fire hazard symbols or signs of fire as many as 47 people (71.2%) with the implementation of the fire emergency response either category, respondents who know the mapping area and installed a fire hazard symbols or signs of fire hazards as many as 19 people (28.8%) with the implementation of emergency response in less category, while respondents who know there is no fire hazard area mapping and attached symbols or signs of fire (0%) with the implementation of the fire emergency response either category or respondents who knew nothing mapping fire hazard area and attached symbols or signs of fire as many as 2 (100%) with the implementation of the emergency response of fire category less. Results of statistical test by Chi-Square was obtained  $p = 0.032$  due to the significant value of  $p = 0.032 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between the identification of the premises and fire hazard area with the implementation of fire emergency in Jombang Hospitals District.

Table 7 shows that the respondents' assessment of the existence of human resources in the field K3 fire as many as 35 people (83.3%) with the implementation of the fire emergency response either category, respondents to the human resources field K3 fire as many as 7 people (16.7%) with the implementation of the emergency response of fire category less while respondents' assessment no K3 human resources in the field of fire as many as 12 people (46.2%) with the implementation of the fire emergency response either category or respondents to no K3 human resources in the field of fire as many as 14 people (53.8%) with the implementation of the emergency response of fire category less. Results of statistical test by Chi-Square was obtained  $p = 0.002$  due to the significant value of  $p = 0.002 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a

correlation between human resource K3 field of fire with fire emergency response in Jombang Hospitals District.

**Table 7:** Relationship of Human Resources field of K3 toward Implementation of Fire emergency response at the General Hospital of Jombang District

Human Resources field of K3	Implementation of Fire emergency response				Totally		p
	Good		Less		n	%	
	n	%	n	%			
Yes	35	83,3	7	16,7	42	100	0,002
No	12	46,2	14	53,8	26	100	
Totally	47	69,1	21	30,9	68	100	

**Table 8:** Relationship of Dissemination and Emergency Response Implementation Procedures toward Implementation of Fire emergency response in the General Hospital of Jombang District

Dissemination and Emergency Response Implementation Procedures	Implementation of Fire emergency				Totally		p
	Good		Less		n	%	
	n	%	n	%			
Yes	47	73,4	17	26,6	64	100	0,002
No	0	0	4	100	4	100	
Totally	47	69,1	21	30,9	68	100	

Table 8. Indicates that the respondent has been given the socialization and implementation of emergency response procedures fire as many as 47 people (73.4%) with the implementation of emergency response either category, respondents who have been given the socialization and implementation of emergency response procedures fire as many as 17 people (26.6 %) with the implementation of emergency response less category, while respondents who have not been given the socialization and implementation of emergency response procedures fire (0%) with the implementation of fire emergency well, respondents who have not been given the socialization and implementation of emergency response procedures fire as many as 4 people (100%) with implementation of fire emergency response less. Results of statistical test by Chi-Square was obtained  $p = 0.002$  due to the significant value of  $p = 0.002 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a relationship between socialization and implementation of fire emergency response with fire emergency response in Jombang Hospitals.



**Table 9:** Relationship of Team Management toward Implementation of Fire emergency response at the General Hospital of Jombang District

Team Management	Implementation of Fire emergency response				Totally		p
	Good		Less		n	%	
	n	%	n	%			
Yes	46	71,9	18	28,1	64	100	0,049
No	1	25	3	75	4	100	
Totally	47	69,1	21	30,9	68	100	

Table 9 shows that respondents who know of the fire fighting team as many as 46 people (71.9%) with the implementation of the fire emergency response either category or respondents who know of the fire fighting team as many as 18 people (28.1%) with the implementation of fire emergency less category, while respondents who know no team fire prevention as many as 1 person (25%) with the implementation of the fire emergency response either category or respondents who knew no team management of fire as many as 3 people (75%) with the implementation of the emergency response of fire category less. Results of statistical test by Chi-Square was obtained  $p = 0.049$  due to the significant value of  $p = 0.049 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a relationship between the team and members of management of fire with fire emergency response management system in Jombang Hospitals.

**Table 10:** Relationship of Code and the Fire Investigative Reporting toward Implementation of Fire Emergency Response in the General Hospital of Jombang District

Code and the Fire Investigative Reporting	Implementation of Fire Emergency Response				Totally		p
	Good		Less		n	%	
	n	%	n	%			
Yes	47	71,2	19	28,8	66	100	0,032
No	0	0	2	100	2	100	
Totally	47	69,1	21	30,9	68	100	

Table 10 shows that respondents who know of investigative reporting guidelines and fire as many as 47 people (71.2%) with the implementation of emergency response either category, respondents who know of investigative reporting guidelines and fire as many as 19 people (28.8%) with implementation fire emergency response less category, while respondents who knew no guidelines for reporting and investigation of fire (0%) with the

implementation of the fire emergency response either category or respondents who knew no guidelines for reporting and investigating the fire as many as 2 (100%) with the implementation of fire emergency response in less category. Results of statistical test by Chi-Square was obtained  $p = 0.032$  due to the significant value of  $p = 0.032 < \alpha (0.05)$ , then  $p < \alpha$  and  $H_0$  is rejected so that it can be concluded there is a correlation between the guidelines and investigative reporting fire with fire in the implementation of emergency response Jombang Hospital District.

**Table 11:** Value of Conformity Infrastructures active fires of infrastructure in Jombang Hospital District

No	active fires of infrastructure	Conformity of level				%
		Total PoinEvaluasi	zero	yes	No	
1.	fire alarms	10	-	8	2	80
2.	Detector	5	-	1	4	20
3.	Sprinkler	10	-	0	10	0
4.	APAR	15	-	13	2	86,67
5.	Hidran	12	-	10	2	83,33
Totally and means		52	0	32	20	54

Table 11. Showing of the 5 elements of active fires infrastructure available in Jombang Hospitals suitability values obtained by 54 %. If the views of each element, the highest rating are APAR (86.67 %), Hydrant (83.33 %) and fire alarms (80 %). For the detector needs more attention because of the level of suitability worth of 20 % as well as to the elements sprinkler suitability compliance level is very low, at 0 %, because the tool is not installed in the hospital.

**Table 12:** Value of Conformity Infrastructures Life Rescue in Jombang Hospital District

No	life-saving facilities and infrastructure	Conformity of level				%
		Totally of Evaluation Point	zero	yes	no	
1.	The emergency stairs	10	-	3	7	30
2.	signage exit	6	-	1	5	16,67
3.	the emergency door	10	-	-	10	0
4.	The emergency lighting	5	-	4	1	80
5.	(Assembly Point)	4	-	4	0	100
Totally and means		35	-	12	23	45,33

Table 12. Shows of 5 elements of life-saving facilities and infrastructure available in Jombang Hospitals District

suitability values obtained by 45.33 %. If the views of each element, the highest rating is assembled (100 %) and emergency lighting (80 %). For emergency stairs (30 %) and signage exit (16.67 %) need more attention because of the low Conformity level and for elements of the emergency door Conformity very low level of 0 %, because the facility is not in the hospital.

#### 4. Results

##### A. Knowledge

Results of the study explained that most of the respondents have a high knowledge or both of the management system of fire emergency, it is in line with the education that is owned by the respondent where officers and teams of fire more who have education D-III Health and supported by the working period of time, besides that there is also a correlation with the results of the training activities and simulation that has been given to officers and fire conducted team on April 16, 2015 where these activities can improve the knowledge and skills of workers and fire teams in disaster preparedness in Jombang Hospitals District.

The results are consistent with research [6]. Based on the results of Spearman rank statistical test with a confidence level of 95 % and 0.05 %  $\alpha$  knowledge that there is a correlation fire team at the hospital for emergency preparedness fire disaster in which the value of the correlation coefficient of 0.558 which means the higher or better level of knowledge of the fire the better team preparedness in emergency response fire.

Following the test results obtained by the relationship  $p = 0.000 < \alpha (0.05)$  showed a significant relationship between the level of knowledge workers and fire teams with the implementation of fire emergency in Jombang Hospitals means higher or better level of knowledge officers and fire the better team implementation of fire emergency which was held in the hospital, the opposite is also increasingly lack or low level of knowledge, it can affect the implementation of fire emergency due to lack of knowledge and understanding of fire emergency that can affect the readiness of the team and members of the fire in anticipation of the danger of fires in the home sick.

##### B. Work Period

Results of the study explained that most of the respondents have a service life of officers and fire teams are working period >5 years as many as 43 people and length of < 5 years as many as 25 people. In line with the results of the study and compared with the Decree of the Minister of Manpower No. KEP.186/MEN/1999 on Fire Prevention Unit in the Workplace Article 9, 2nd paragraph, that the period of employment officers and fire teams hospitals already meet applicable regulatory standards in terms formation of officers and fire team formed in Jombang Hospital District.

The results are consistent with research [7], working life is strongly associated with the experience means that the longer service life of a person, the experience will be more and more. From the results obtained largely 94 % or 28 firefighting team at the hospital dr. Sobirin Musi Rawas with tenure 5-20 years in accordance with the Decree of the Minister of Manpower No. KEP.186 / MEN / 1999 concerning fire prevention unit in the

workplace that in order to become a fire-fighting unit minimum working period of 5 years.

Test results obtained by the relationship  $p = 0.001 < \alpha (0.05)$  that showed a significant association between working life and team officials conducting fire with fire emergency in Jombang Hospitals means that the longer service life of officers and fire teams, the experience will be more and more so the better the implementation of fire emergency conducted in hospital, the opposite is also increasingly less tenure officers and teams of fire, the experience will be even lower so as to affect the implementation of fire emergency due to lack of emergency response experience so as to affect the readiness of personnel and team fires in anticipation of the danger of a fire that occurred in the hospital.

### C. Training and Simulation Fire

By The decision of Health minister of Indonesia Republic Number. 1087/Menkes/SK/VIII//2010 on Standards Occupational Health and Safety in the Hospital that one K3RS program that needs to be applied in the hospital is a fire emergency response management development program to support the development of the fire emergency response management, then the team and members of the fire in the hospital should be given training and test the readiness of emergency response personnel.

The training program simulation of a disastrous fire in Jombang Hospital 2015 have implemented training and simulation fire on April 16, 2015 in Jombang Hospital District, where the training and simulation using fire extinguisher, Fire Extinguishing by using a fire extinguisher and evacuation of patients from the treatment room the second floor to the first floor, observation Results of document review about the implementation of training and simulation of fire in Jombang Hospital District with the level of compliance conformance obtained a score of 100 % (good), this is evidenced by existing training programs simulating fire disaster, the schedule of training activities and simulation of fire, the attendance list of participants and simulation of fire and fire simulation training activities report fire disaster.

Education and training activities that have been implemented in Jombang Hospitals District in line with the results of research conducted by [8] at the District Hospital dr. M. Ashari Pemalang that fire prevention education and training provided to employees, so that employees in the hospital has the knowledge and ability in the prevention of fires where fire education and training provided in the form of training on the theory of fire suppression, extinguishing the fire using fire extinguisher and action hospital done when the pain suffered catastrophic fires.

Test results obtained by the relationship  $p = 0.002 > \alpha (0.05)$ , thus showing a significant association between training and fire simulation with the implementation of fire emergency in Jombang Hospitals means the frequency of training and fire simulation conducted periodic can affect the ability of knowledge and skills of officers and a team of fire so as to improve the readiness of fire emergency in the hospital, the opposite is also increasingly less frequency in training and simulation fires may affect the ability of the knowledge and skills of officers and a team of fire that can affect the readiness of fire emergency in anticipation of the danger of fires in hospital.its thus concluded that officers and fire teams already established in Jombang Hospitals District in the

development of emergency management has been given most of the training and test the readiness of emergency response personnel during the first times of the year, it already meets The decision of Health minister of Indonesia Republic Number. 1087/Menkes/SK/VIII/2010 on Occupational Safety and Health Standards Hospital.

#### D. Fire Emergency Response Organization

Results of the study are described that most of the respondents in the Organizational Structure Role of Fire in the hospital was formed to represent the various rooms or existing installations at the hospital since 2011, but in the early of January 2015, Organizational Structure Role of Fire in Hospital District amended by Regulation Director of Jombang Hospital No. 188.4 /33/415/2015 About the Role of Organizational Structure Fire Jombang Hospital.

Observation study Results of organizational documents fires in Jombang Hospitals District with the level of achievement of conformity obtained a score of 100 % (good), this is evidenced by the existing organizational structure fire, no letter, the regulation on the establishment of the organizational structure of the fire in the hospital and no arrangement's membership of a team of fire in hospital. The results are consistent with research Arrazy et al (2013), that in the house dr. Sobirin already has a special diagram fire control team who will act in the event of fire, where the fire formed by controlling team has represented a wide range of installation and field hospital.

Test results obtained by the relationship  $p = 0.032 > \alpha (0.05)$ , thus showing a significant association between the presence of a fire emergency response organizations with the implementation of fire emergency in Jombang Hospitals meaning that the fire emergency response organizations showed their readiness in the implementation of fire emergency.

#### E. Guidelines for Emergency Response Fire

Results of the study explained that the majority of respondents said hospitals Jombang District already have fire prevention guidelines are set by the Regulation Director of the General Hospital of Jombang No. 188.3 / 21E / 415.44 / 2015. Results observation study guidance document fire emergency hospital Jombang with the level of compliance conformance obtained a score of 60 % (enough), because there is still a shortage of them there are no guidelines for the implementation of fire emergency that contains information about the source of potential fire hazards and how to prevent it, there are no guidelines fire emergency load on the type, the way of maintenance and use of means of fire protection at the hospital.

The results are consistent with [9] that the prevention and fire fighting team sdr.Ashari K3RS Hospital in Pematang have the fire prevention and control guidelines containing about actions taken when looking at the fire, the procedures for fire fighting, workflow and reporting procedures Fire.

Test results obtained by the relationship  $p = 0.032 > \alpha (0.05)$ , thus showing a significant association between the fire emergency response guidelines for the implementation of fire emergency in hospitals Jombang means for

fire prevention guide shows the implementation of emergency preparedness in fire at home sick, otherwise also if there is no fire prevention guidelines in hospital showed no readiness in the implementation of fire emergency at the hospital.

It can be concluded that the fire prevention guidelines that had been developed at the Hospital Jombang need to be completed in order to meet the Minister of Health Regulation No. 1087 / Menkes / SK / VIII // 2010 on Occupational Safety and Health Standards Hospital.

#### F. Identification of place and Area Fire Hazard

The results obtained that the manajmen K3 in hospitals Jombang District already identify a risk in case of fire including indoor reservoir of oxygen, nutrition installation, generator room, the laboratory, sterilization room, panel space, space incinerator, space burning medical waste as well as any room potentially occur kosleting electricity where that place has been given symbols or signs of fire hazards.

Results observation study identification documents place and area fire hazards in hospitals Jombang with the level of compliance conformance obtained a score of 50% (or less), because there are still shortcomings that need to be completed which have not been attached sketch places and areas at risk of fire that is placed in every room of the risk in case of fire , The results are consistent with research [10], that dr. M. Djamil Padang in order to implement fire safety systems in buildings hospitals are already identifying fire risks that can occur in hospitals by collecting data, checking periodically to the place that can create a fire hazard in the hospital.

Test results obtained by the relationship  $p = 0.032 > \alpha (0.05)$ , thus showing a significant association between the identification of the premises and fire hazard area with the implementation of fire emergency in Jombang District Hospital where the identification of the place and fire hazard area in the hospital so can improve fire emergency in the hospital, otherwise also if there is no identification of the premises and fire hazard area showed no readiness in anticipating the danger of a fire that occurred in the hospital. It can be concluded that the identification of the place and area fire hazards in hospitals Jombang by placing symbols or signs of fire has been made, but need to be equipped to meet the Minister of Health Regulation No. 1087 / Menkes / SK / VIII // 2010 on Occupational Safety and Health Standards Hospital.

#### G. Human Resources field K3 Fire

Results of the study explained that the majority of assessment respondents said Human Resources K3 in the field of fire safety (Fire Safety) does not exist or is available in hospitals Jombang while according [11] achieve the work effectively and efficiently in the hospital must be supported by staff having a base of knowledge, experience and expertise in fire prevention and suppression.

Results of this study conflict with research [12] , that in RSU Unganan Semarang, where in an effort to improve the readiness of hospitals in mengantisipasi fire hazard in hospitals Unganan Semarang, the hospital management has prepared a force K3 working in the management of health and safety including the management of the fire by forming an organization fires, fire prevention strategic plan and the education and

training of fire officers at the hospital.

Test results obtained by the relationship  $p = 0.002 > \alpha (0.05)$ , thus showing a significant association between K3 human resources in the field of emergency response fire with fire in Jombang Hospitals District where the presence of human resources in the field of fire K3 shows the readiness of the implementation of response fire emergency in hospitals in order to improve the readiness of fire emergency in the hospital, otherwise also if there is no HR K3 field of fire showed no readiness in emergency operations at hospitals thus concluded that hospitals Jombang yet available HR K3 field of fire so Kepmenkes not meet No. 1087 / Menkes / SK / VIII // 2010 on Occupational Safety and Health Standards Hospital.

#### H. Dissemination and Implementation of Emergency Response Procedures Fire

Results of the study explained that most of the respondents are already getting dissemination and implementation of fire emergency response procedures in hospitals Jombang. The event was held on 26 October 2015 with materials dissemination and implementation of emergency response procedures that give the flowchart early response in the event of fire or smoke that leads to the occurrence of a fire in the hospital, important phone numbers that can be contacted in case of an emergency at the hospital (PMK, BPBDs, PMI, police in Jombang) as well as procedures for handling fires in hospitals Jombang District.

The results are consistent with research, which carried out that dr. Bahar Ernaldi Palembang has procedures in response to fire emergencies, but for all the rooms do not yet have the technical instructions coping with the fire, including a phone number.

Test results obtained by the relationship  $p = 0.002 > \alpha (0.05)$ , thus showing a significant association between socialization and implementation of emergency response fire with fire emergency management implementation in hospitals Jombang where the socialization and implementation of fire emergency response indicates readiness implementation of fire emergency in the hospital, on the contrary, too, if not done socialization and implementation of emergency response of fire showed no readiness in the implementation of fire emergency at the hospital. It can be concluded that the dissemination and implementation of emergency response procedures in hospitals Jombang fire was implemented so that it meets Kepmenkes No. 1087 / Menkes / SK / VIII / 2010 on Occupational Safety and Health Standards Hospital.

#### I. Fire Fighting Team

Results of the study explained that the majority of respondents said that hospitals have formed a team Jombang District role of fire, where the team and members of the role of fire in hospital represent all rooms in the hospital Jombang. The team has been given the role of fire each job description in accordance with the functions in the event of a fire in the hospital.

Results of observation of document review team of fire prevention in hospitals Jombang with the level of compliance conformance obtained a score of 100 % (good), this is evidenced by there is a list of the membership of the team of fire-fighting, Regulation Director of the membership composition of the team of fire-

fighting, Regulation Director of the placement of the team members fire prevention in every room of the hospital, job descriptions and functions of fire response teams in hospitals and fire-fighting teams work program on the implementation of fire emergency at the hospital.

The results are consistent with research [8], that Dr.Meowardi Hospital Surakarta in efforts to maintain security, prevent fires, disaster preparedness and to ensure and maintain the safety of life of patients, employees and visitors at the hospital then formed Committee of Safety, Fire and Disaster Alert (P2K3) at the hospital.

Test results obtained by the relationship  $p = 0.049 > \alpha (0.05)$ , thus showing a significant association between fire fighting teams with the implementation of fire emergency in Jombang Hospitals District where the presence of fire prevention team showed the presence of fire emergency preparedness in hospitals, The reverse is also when there is no fire-fighting team at the hospital showed no fire emergency preparedness in hospitals. Thus concluded that the fire-fighting teams that have been formed in Jombang hospitals already meet Kepmenkes No. 1087 / Menkes / SK / VIII / 2010 on Occupational Safety and Health Standards Hospital

#### J. Guidelines and Fire Investigation

Results of the study explained that the majority of respondents said that the hospital Jombang District already have guidelines and reporting of fires. Reporting of fires in hospitals Jombang has been done by the chairman K3RS, because once there is a fire on 19 November 2014 of the causes originating from water dispensers were empty but still ignited, causing a short circuit short circuit resulted in a fire in the room counter medications PBI (Beneficiaries Dues) in hospitals Jombang.

Results observation study guidance document and reporting investigations of fire in hospital Jombang obtained the degree of fulfillment of compliance with a score of 100 % (good), this is evidenced by no guidelines for investigating a fire which was held in the hospital, there is a system of reporting lines fire event, there is the format of inspection reports and assessment event of a fire, there are Standard Operating Procedures (SOPs) reporting the event of fire, there is evidence of the results of the examination and reporting of fires were carried out in hospitals.

Results of this research differs from research [7], performed at Hospital dr. Sobirin Musi Rawas that once there is a fire in the house dr. Sobirin, but has never done an investigation and recording of any fires that is only done the handling and documentation of incident reports have not been found in the house fire that dr. Sobirin Musi Rawas. While the research results obtained in Jombang General Hospital (2015) that the incidence of fires paca hospital fire in the hospital. K3 team has conducted an investigation and reporting of fires where the results of such investigations made after the investigation report the fire, after the recommendation of fire occurrence and fire incident report documentation.

Test results obtained by the relationship  $p = 0.032 > \alpha (0.05)$ , thus showing a significant association between the presence of fire investigations and reporting guidelines for the implementation of fire emergency in Jombang Hospital District where their guidelines and reporting fire investigation showed the presence of emergency response preparedness fire in the hospital, otherwise also if there are no guidelines for reporting and



investigating a fire at a hospital showed no readiness in the implementation of fire emergency at home. Thus concluded that the fire investigation and reporting guidelines that have been developed and implemented in hospitals already meet Kepmenkes No. 1087 / Menkes / SK / VIII / 2010 on Occupational Safety and Health Standards Hospital.

#### K. facilities and infrastructures Emergency Response Fire

Results of the study explained that the inspection and observation of the level of compliance conformance active fire facilities and infrastructure available in hospitals Jombang scored conformity with a score of 54 %. If the views of each element, the highest rating is APAR (86.67 %), Hydrant (83.33 %) and fire alarms (80 %). For the detector needs more attention because of the degree of fulfillment of compliance with a score of 20 % as well as for the sprinkler element of compliance conformance level is very low, with a score of 0 %, because the tool is not installed in the hospital.

Results of the study explained that the inspection and observation of the level of compliance lifesaving facilities and infrastructure available in hospitals Jombang obtained the degree of fulfillment of compliance with a score of 45.33 %. If the views of each element, the highest rating is assembled (100 %) and emergency lighting (80 %). For emergency stairs (20 %) and signage exit (16.67 %) need more attention because of the level of fulfillment of compliance is still low and to the emergency door elements suitability compliance level is very low, at 0 %.

Based on the results of the examination and observation facilities and infrastructure of the courts of the fire can be concluded that the Jombang hospitals already provide infrastructure fire prevention and suppression, but there are not fulfilling that need to be equipped to meet the Minister of Health Regulation No. 1087 / Menkes / SK / VIII // 2010 on standards health and safety of the hospital.

### **5. Conclusions**

- a. Officers and fire teams in hospitals Jombang have a good knowledge about the implementation of fire emergency.
- b. The teamwork and members of fires in hospitals Jombang mostly working over 5 years and has met the requirements of the regulations in force in the formation of the team and members of the fire.
- c. Training and testing (simulating fire disaster) to workers and fire teams in hospitals Jombang been conducted 1 year and qualify Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- d. Organization of fire emergency in hospitals Jombang already established and qualified Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- e. Guidelines for fire emergency in hospitals Jombang has been prepared, but still need to be completed in order to qualify Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- f. Identification and areas where fire hazards in hospitals Jombang has been made, but need to be equipped to

Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.

- g. Human Resources K3 field of fire in hospital Jombang yet available so do not qualify Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- h. The dissemination and implementation of emergency response procedures in hospitals Jombang fire has been implemented and is eligible Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- i. Tim suppression of fire in district hospitals are already established and qualified Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- j. Guidelines and investigative reporting fires in hospitals Jombang already made and qualify Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.
- k. Facilities and infrastructure equipment of active fires and rescue people in Jombang hospitals are already available, but still need to be completed in order to Minister of Health Regulation No. 1087 / Menkes / SK / VIII / 2010 on standards health and safety of the hospital.

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