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SEMINAR ON BUILT
ENVIRONMENT
AND TECHNOLOGY
(USBET) 2023**

**SUSTAINABLE BUILT
ENVIRONMENT**

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FIRE RISK ASSESSMENT OF COLLEGE IN UITM SERIISKANDAR

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ABSTRACT

Fire risk assessment is a general requirement for all health and safety rules now in order to ensure the safety of the building occupants especially the students in colleges. The aim of this research paper is to determine the level of awareness of the students towards fire hazard at the college. The purpose of this study is to study the factors of the fire hazards happens, to survey the student awareness on the fire hazards and to improve the student awareness on the fire hazards. For this research study, the method that has been used in order to achieve the aim and objectives is by using quantitative method and distribute the questionnaire using simple random sampling to the respondents by face to face at UiTM Perak. From the analysis, the finding has come out. The result shows that there was very little of fire safety provisions which make the students are not aware about the fire hazards and lots of the factors which can make fire hazards happens in the colleges which dangerous towards the building occupants especially, students. Based on the data analysis, the finding on the Part B which is the main factor of the fire hazards happens is the heating appliances and for Part C (1) is for the awareness level of the students on the fire hazards which students mostly not aware on the firefighting system and for Part C (2) is based on the materials.

Keywords: fire, risk, fire hazards, awareness, hazards

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INTRODUCTION

According to Bromley and Birchall (2015), other countries around the world use various types of fire safety design. It is due to the old practices that are followed by the prescriptive that have been based on the fire safety analysis. It is to achieve a standard level of fire safety for the building's occupants. Concerns about the various types of fire safety design based on the other country, as the country is moving toward extensible performance-based codes. Because it allows for greater flexibility in fire safety designs, performance-based codes provide occupants with a standard level of fire safety.

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According to Helen (2004), risk assessment is now a general requirement for all health and safety rules. The priority is to avoid accidents and other work that is related to the safety of the building occupants rather than respond to incidents and recover the situation after a bad event. To mitigate the effects of fire, occupants must be familiar with or recognize the ambiguity of predicting fire progression and performance so that they can be more alert. Some of the buildings most likely did not achieve the fire safety design objectives. Furthermore, a fire at a university student's hostel will have a significant destructive impact if appropriate precautions are not taken. Although this fire occurred infrequently, the consequences were disastrous, whether there were fatalities or total property loss when the fire broke out (Aminu, 2014).

Fire safety is just one of many safety concerns that management must address in order to reduce the risk of injury or death to employees or the general public. Unlike most other safety concerns, fire has the potential to quickly injure or kill many people. Although this guidance is only concerned with fire safety, many of the measures discussed here will have an impact on other safety issues, and vice versa.

It is acknowledged that these various differing safety demands can sometimes interfere with one another, and management should consult with other interested parties (for example, the Health & Safety Executive (HSE)) as needed to ensure that they are not in violation of other legislation/guidance (David, 2011).

LITERATURE REVIEW

The product of the probability of fire occurrence and the consequence or extent of damage to be expected in the event of a fire is defined as fire risk (Hurley, 2016). Building fire risk assessment consists of three steps: fire hazard identification, fire risk analysis, and fire risk evaluation. Fire hazard identification is a systematic process for determining how, when, and why a fire might occur. Fire risk analysis is the process of estimating the likelihood and magnitude of adverse effects caused by a fire in a building (Xin and Huang, 2013).

A few scholars have conducted extensive research on fire risk assessment and developed numerous methods. According to research, there are two types of fire risk assessment methods: qualitative and quantitative. Different fire risk assessment methods typically have application limitations. For example, the narrative method, as a qualitative fire risk assessment method, can only provide a general description of dangerous events without quantifying the fire risk. The qualitative fire risk assessment method, such as the fire risk index and risk matrix method, can achieve a simple satisfactory outcome due to their ease of operation, which is currently carried out by most foreign insurance companies due to their extensive application range and relatively simpler procedure (Hasofer, A., et al., 2006).

One of the most important and mandatory requirements for buildings is life safety. The ability of building occupants to successfully evacuate from it in the event of an emergency, such as a fire, prior to the onset of untenable conditions in the egress routes determines whether a building can meet this requirement (Zhang et al., 2014).

The primary guarantees of campus fire safety are fire protection systems and emergency plans. It is critical to improve the personnel of faculties, colleges, departments, and individual responsibility at all levels of fire, as well as to clarify and refine fire regulations so that each location is responsible for fire supervision (Meng et al., 2016). A fire emergency plan should be developed based on a thorough investigation of the actual situation of the building, scientific analysis and demonstration of the relevant building's characteristics, for major fire hazards and possible fire or explosion of key positions and locations, to prepare a comprehensive fire emergency plan to ensure that the construction of fire can quickly and effectively conduct emergency response.

Students learn about fire protection primarily through public awareness and education. Nowadays, the media network is the pulse. It is society's primary source of information. Using the benefits of a network platform to quickly reach a large audience, combined with fire videos, safety lectures, questionnaires, and other means to carry out fire promotion from a variety of angles, both to save money on fire fighting hardware construction and to greatly improve publicity efficiency. Each unit should be supervised and tested on a regular basis in order to implement fire safety measures. December 2019, Vol. 16 No. 2 42 safety responsibilities regarding fire control safety on a regular basis, such as firefighting equipment maintenance, emergency supplies, to conduct spot checks on the safety of student dormitories, identify problems, and follow up on rectification (Watts, J. M., & Hall, J.R., 2016).

Guidance Fire Risk Assessment

Fire Risk Assessment

Fire risk assessment is a legal requirement for every workplace. Even a small fire could have fatal consequences and will have serious financial implications for any business.

Safety point	Why?	How do you do this?
By law a competent person must carry out a fire risk assessment of the premises.	A competent person will have the knowledge to identify the risks and suggest practical precautions you can take.	By developing your own knowledge, training a suitable, interested member of staff, or employing a qualified advisor. Ask for information from your Fire Authority.

Use the blank fire assessment form provided on the last page to go through this process and do a fire risk assessment of your premises. Photocopy the form for additional areas if required.

Fire safety risk assessment

1	Identify fire hazards Identify: <ul style="list-style-type: none"> • sources of ignition such as naked flames • sources of fuel such as flammable liquids • sources of oxygen such as the air around us
2	Identify people at risk Identify: <ul style="list-style-type: none"> • people in and around the premises and • people who are especially at risk
3	Evaluate, remove or reduce, and protect from risk <ul style="list-style-type: none"> • Evaluate the risk of a fire starting • Evaluate the risk to people from a fire • Remove or reduce fire hazards • Remove or reduce the risks to people from a fire • Protect people by providing fire precautions
4	Record, plan, inform, instruct and train <ul style="list-style-type: none"> • Record any major findings and action you have taken • Discuss and work with other responsible people • Prepare an emergency plan • Inform and instruct relevant people • Provide training
5	Review <ul style="list-style-type: none"> • Review your fire-risk assessment regularly • Make changes where necessary

Remember to review your fire-risk assessment regularly

Figure 1.0 Guidance Fire Risk Assessment

METHODOLOGY

Research Method

Every method used focuses on the study's objectives. This study employed a quantitative approach to collect data on fire safety issues from the public's perspective in relation to the safety that occurred in college at UiTM Seri Iskandar, Perak. Nontechnical questions are asked in the questionnaire to ensure the study's validity and reliability.

This study concentrated on college students at UiTM Seri Iskandar in Perak. The parks are overseen by the Municipal Council of Perak Tengah. They chose college in UiTM Seri Iskandar, Perak as the case study area because they want to assess the fire safety risk in college in UiTM Seri Iskandar, Perak. The respondents to the questionnaire were residents of four colleges in UiTM Seri Iskandar Perak.

Method of Data Collection

The study investigates the public's perception of fire safety risk assessment in relation to safety management. It also determines factors relating to public perception of resident safety.

The first question will be provided with what typical fire hazard in all UiTM Seri Iskandar colleges. The questions in this study used a five-point scale to assess each item for each section of the provided answer. The responses ranged from "strongly disagree" to "strongly agree." For the second question, respondents could choose multiple answers from the following options, such as a rating of 1-10 for the level of

Secondary resources are used to gather data in order to strengthen and achieve goals. The second approach is to conduct a literature review based on articles, journals, and books. As a result, the findings of this study are expected to be used for future fire safety risk assessments in college at UiTM Seri Iskandar Perak, as well as in another Malaysian state.

Table 1: Data collection about the level of awareness of the students on fire hazardsprecautions

Statement	The awareness level of the students on fire hazards precaution	Yes	No
1	Assembly point	93%	7%
2	Designated escape routes	93%	7%
3	Additional extension	93%	7%
4	Knowledge about "active fire system"	93%	7%
5	Conducting fire drill	93%	7%
6	Bring the electrical appliances to the college	93%	75
7	Switched off the electric	100%	0%

ANALYSIS

The data collection reveals that most of the respondents know about the assembly point based on statement 1, which is the residents of UiTM Seri Iskandar are knowledgeable about fire hazards. Statement 2 reveals that the residents of the colleges also the designated escape routes. So, with this knowledge, they have been prepared if there is a fire at the college. Statement 3 reveals that residents of the college bring additional extensions for their use daily. Statement 4 reveals that students of UiTM Seri Iskandar that live at the college have knowledge about active fire systems. The meaning of active fire system is n active fire protection system is a dormant system that needs to be activated in the case of a fire to perform its function(activation of water spray systems, deluge systems, sprinkler systems, fire water monitors, and steam rings around flanges). Statement 5 reveals that all the residentsof UiTM Seri Iskandar have knowledge about fire drills. This is because they have been shown by the college how to do fire drills in have fire situations. Statement 6 reveals that residents of the colleges bring electrical appliances to the college for theirdaily use. Statement 7 reveals all the students that live in college in UiTM Seri Iskandar switched off their electricity when they were not in the room or when they wanted to go outside. This is because it will prevent electricity from overheating which can cause damage to the electrical appliances or cause fire hazards.

CONCLUSION

Fire risk assessment is essential for ensuring fire safety in colleges and is also required by law. It entails identifying potential hazards, assessing the level of risk, and implementing fire-prevention measures. Regular assessments can ensure the safety of students, faculty, and visitors, and it is critical that all stakeholders participate in the process. Colleges can avoid loss of life, property damage, and legal action by identifying and mitigating fire risks. As a result, in order to maintain a safe environment, colleges must conduct regular and updated fire risk assessments.

Colleges must ensure that their fire risk assessments are current and thorough. This means that they should be carried out by qualified professionals who are well-versed in fire safety regulations and standards. These professionals can identify potential fire hazards in the college environment, such as faulty electrical wiring, blocked fire exits, or flammable materials, and make improvements recommendations. Upgrades to fire extinguishers or better escape routes could be among the recommendations.

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Tarikh : 20 Januari 2023

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