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FIRE SAFETY MANAGEMENT FOR A HOSPITAL

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Abstract: Fire can be a useful tool, but it can also be a deadly nightmare. As the old proverb states, it is a good servant but a bad master. Safety management is a very important aspect of planning in every form of infrastructure, and especially for a Hospital Building. However let's focus on one major aspect of safety management & i.e. Fire safety for A Hospital. Fire can cause irreparable losses, to any hospital. Hospitals are infrastructures with a high density of life in terms of patients, doctors, staff, etc. Therefore utmost care needs to be taken and precautions followed to imbibe good safety measures & practices amongst planners, employees & healthcare workers in any hospital. The aim of this study is to investigate the relevant aspects of Fire Safety Management in Hospital Buildings and to identify methods to improve fire safety of Hospital building users. The scope of this study has been focused on the information gathering in order to frame Fire Safety Management System within an appropriate time frame. by Gathering Information in the form of Interviews & questionnaire from the Hospital Users, Competent concerned Govt. Dept., & the Fire Safety Implementation Personnel. After word processing of gathered information to identify the Critical Attributes as per its relative important and Working out the Fire Safety Requirement of these Critical Attributes. and at last Framing Fire Safety Management System fulfilling the Fire Safety Requirement of identified different Critical Attributes.

Keywords- Non Linear, Soft Storey

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INTRODUCTION

Fire can be a useful tool, but it can also be a deadly nightmare. As the old proverb states, it is a good servant but a bad master. Fire has always fascinated and frightened us. Without fire, civilization would be radically different. In fact, it might not even exist. However, the cost of fires which get out of control is high, and an average of two to three people die in fires each day in India.

Hospitals are key factors to provide emergency preparedness in most communities and are expected to be fully functional at the time of major incidents/disasters. Total building fire protection for life safety is more necessary in Hospitals than in other occupancies because of the nature of the occupants. A majority of the occupants in Hospital are incapable of self evacuation or are ambulatory and incapable of perceiving a fire threat and choosing a rational response.

The aim therefore must be to ensure that, if possible, outbreaks of fire do not occur and that if and when they do occur, they are rapidly detected, effectively controlled and quickly extinguished. This means that overall fire safety will depend on physical factors such as building design and construction, together with equipment and furnishing and also crucially on current local policies for handling emergencies and relevant staff training.

AIM & OBJECTIVE OF THE STUDY:

The aim of this study is to investigate the relevant aspects of Fire Safety Management in Hospital Buildings and to identify methods to improve fire safety of Hospital building users. To achieve this aim, three objectives have been delineated as follows:

- 1) To identify the attributes of Fire Safety Management that influences fire safety of hospital buildings and its users;
- 2) To Work out Fire Safety requirement for the hospital Constituents i.e. user and its sections.
- 3) Developing Fire Safety Management System for the hospital and its users.

SCOPE OF THE WORK:

The scope of this study has been focused on the information gathering in order to frame Fire Safety Management System within an appropriate time frame. The scope of the study is mention as below:

- 1) Information Gathering in the form of Interviews & questionnaire from the Hospital Users, Competent concerned Govt. Dept, & the Fire Safety Implementation Personnel.
- 2) Processing of gathered information to identify the Critical Attributes as per its relative important.
- 3) Working out the Fire Safety Requirement of these Critical Attributes.
- 4) Framing Fire Safety Management System fulfilling the Fire Safety Requirement of identified different Critical Attributes.

RELATED WORKS:

Tseng Wei-Wena,* , Pan Kuo-Hsiungb, Hsu Che-Mingb In his Research paper “Performance-based Fire Safety Design for Existing Small-scale Hospitals” Pointed out that the new era of National Health Insurance in 2000 had a significant impacted on the management and operation of small-scale hospitals. According to the 2009 statistics released by Department of Health, Executive Yuan, there are a total of 307 small-scale medical institutes which provide services under 99 beds. Compared with other large-scale medical centers and general hospitals, small-scale hospitals cannot properly deal with safety management and response to emergency evacuation due to lack of facilities, equipment and human resources.

Ze-min Jiang, Pei-hong Zhang*, Rong-xue Shang, Xiang-liang Tian in his research paper “Investigation and Simulation on Human Evacuation Behaviour in Large Hospital Building in Shenyang” identified that in a typical crowded public place, fatal deaths are caused by ineffective evacuation action in large hospital on account of the special characteristics of occupants in hospital building, i.e., pathological, physiological and psychological behaviour, etc. Based on that, correlation analysis was carried out between special behavioural characteristics of occupants in hospital and pedestrian walk velocity, as well as the correlation with their evacuation decision behaviour.

Nero C, Örténwall P, Khorram-Manesh A* in his paper “Hospital evacuation: planning, assessment, performance and evaluation” published in the journal of Emergency & Disaster Medicine 2, 1 (2013) identified that the Factors contributing to the evacuation, analyzed it and action plans are prepared. and A risk and vulnerability analysis at two county hospitals along with an online literature search based on the keywords; “evacuation/closure”, “hospitals/medical facilities” and “disaster/hazards” alone or with “planning”, was conducted.

PLAN OF RESEARCH:

The research will be conducted in several stages to achieve all of the objectives of this study. The first stage would involve identifying the objectives and scope of work involved. Once finalized, the second stage would be to conduct the literature review to find out more information about fire hazards and fire safety for hospitals, also to ensure proper understanding of the subject matter and to enhance knowledge level. The third stage would involve conducting the field research from the case study chosen to fully achieve all three objectives. One of the methods that will be used in the field research would be to conduct professional interviews with the personnel involved in the implementation of fire safety management in the chosen case study of hospital buildings. An interview checklist will be prepared prior to conducting the interview to avoid missing out on any essential questions. Besides the professional interviews, a questionnaire survey would also be conducted in fulfillment of the objectives of the study. The questionnaire survey would be based on a Likert's Scale of 1 (Disagree) – 5 (Strongly Agree) and the respondents would be required to give their ratings based on the questions asked. The fourth stage of research would be to compile all the data obtained and conduct the analysis. The last stage would be the presentation of the analyzed data and writing of the report with conclusions and future recommendations.

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