Risk of Heat Stroke due to Extreme Heat Changes: A Review

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Abstract. Temperatures higher that in the environment of work for workers diuar room very influential given the risk of the occurrence of an attack of fever Temperature High or known Heat Stroke. In the article is, do observation observation of patients with cases of heat stroke. This material and method Keyword "Heat Stroke", "handling patient heat stroke", "Hypothermia", "Injury Heart due to Heat Stroke" is used through a combination of "OR" and "AND". By conducting electronic searches on Google and Google Scholar and Pubmed. The search was carried out with a publication year limitation between January 2013 and October 2020. Results: 10 articles were collected and met the inclusion criteria. The literature review shows that, most of the research has been done in countries advanced, and is found in the article mentioned that the cases of heat stroke are still high with cases penatalaksanan are different in each country.

Key word: Heat stroke, treatment of heat stroke patients, Hypothermia, liver injury due to heat stroke.

1. Introduction

The World Health Organization estimates that the temperature rise karenap Changes anthropogenic climate that occurred in the beginning in the 21st Century, p Changes climate is one of the global problems of the most serious and shortly acute k's All that weighed on the environment and the factors determinants of health [1]

The negative effects of global warming are clearly visible on the effects on human health as a whole. Some of the risks of diseases such as cardiovascular disorders, worsening individual breathing and the increasing threat of infectious diseases and even pandemics. In particular, climate change that extreme is warming globally has been evenly felt by entire countries in the world, and the most impact to the countries of Southeast Asia and Africa [2]

2. Method

2.1 Strategi search

Search electronics in Google and Google Scholar and PubMed as the source of a major, in access in October 2020 for extracting the study were at issue in the languages English and French are discussing the cases of occurrence attack of heat stroke in patients of the athletes and the public that a lot of activities outside of the current hot weather. Search strategies were in use to search for articles by keyword "heat stroke", "handling patient heat stroke", "Hypothermia", Injury Heart due to Heat Stroke" was developed through a combination of "OR" and "AND". We observe the articles of research that in published between 2013 until 2020.
title, abstract and said key screened for step early in the article that is relevant and meets the criteria for inclusion were included in the analysis.

2.2 Inclusion Criteria
1. Articles that discuss or evaluate a disease that is caused by the temperature of the heat extremes are known by the term Heat Stroke.
2. Articles discuss and feed that information about the incidence of diseases heat stroke were published in the period of time January 2013 until October 2020

3. Result

3.1 Literature search
Search initial identify of 34 articles collected from google and google scholar and PubMed. Among the articles that, 19 articles in spend because no correlation, while the 15 articles included and meet the criteria of inclusion. Study research takes place in the New Zealand, Canada, South Korea, United States , India, Selandia New, Japan, Italy and China).

Table 1. Characteristics of Study Discusses Risks and handling Disease Heat Stroke

| Author | Area and Research | collection of data | Statistical Methods | Main Findings |
|--------|-------------------|--------------------|----------------------|---------------|
| Katherine Riley Martin, Melissanaiman, Maurice Espinoza | Chicago, United States | Temperature of hot extremes / Dehydration | An Esophageal Temperature Management (ETM) device is installed via endotracheal intubation | Use of the tool control the temperature of the esophagus is a technology new to the system work as a means of cooling the active are mounted on the throat of patients is very effective for the treatment of patients with heat stroke extreme / critical without any act of surgery. |
| N Yoram Epstein, Ph.D., and Ran Yanovich, Ph.D. [3] | English | Temperature of hot extremes / Dehydration | Collection and an analysis of data on observations of patients of heat stroke | 1. Management of patients with heat stroke are the most effective is to plunge into the water cooler 2. If situation number 1 is not possible, other preventive measures can be taken, namely watering the patient's body directly to cool down 3. Management of heat stroke patients can also be supplemented by preparing or inserting intravenous fluids. |
| Fani Ribeiro 1, Mário Bibi 2, Marta Pereira 3, Sofia Ferreira 4, Helena Pessegueiro 4, Rui Araújo (2020) | Portugal | Temperature of hot extremes / Dehydration | Collection and an analysis of data on observations of patients of heat stroke | 1. Heat stroke is a condition threatening the life that was marked by hipertemia and the failure of many organs 2. Injuries hepatocellular mild to moderate is a complication that is documented with good but injured hearts were severe and failing hearts acutely rarely happens |
3. case of a patient with HS related severe liver injury who was completely cured with conservative treatment.

Filippo Macaluso, PhD; Rosario Barone, PhD; Ashwin W. Isaacs; Felicia Farina, MD; Giuseppe Morici, MD; Valentina Di Felice, PhD

Masahide Kondo, Momoko Kayaba, Kazutoshi Sugimoto, Masaji Ono, Kouichi Nakazawa, Emiko Minakuchi, Yasushi Honda

Italy Temperature of hot extremes Heat Stroke Study of literature

There are potential risks of heat stroke for outdoor swimmers during exposure to extreme temperatures

Tiantian Li, Fan Ding, Qinghua Sun, Yi Zhang & Patrick L. Kinney

Shanghai, China Heat wave Heat Stroke Linear correlation and regression analysis

The conclusion of the incidence of heat stroke cannot be ignored since the consequences of heat stroke are very serious, but the risk can be eliminated by the use of appropriate cooling equipment. Preventive measures in the form of preparing cold equipment are needed to prevent the elderly as a high-risk group from experiencing extreme heat stroke.

Yan Wang, Jennifer F. Bobb and Francesca Dominici

United States of America Temperature of hot extremes Heat Stroke Random-effect Poisson Regression Model for estimating relative risk (RR)

The frequency of patients treated with heat stroke due to heat stroke showed a decrease over time. In addition, research also shows that the resilience of elderly people becomes vulnerable and preventive measures can be taken through the use of central air conditioning.

Shoji Yokobori, MD, PhD

Japan Temperature of hot extremes Heat Stroke Study of literature

The conclusion from the literature study conducted was that the Japanese government formed a committee to tackle heat stroke and hypothermia in order to tackle the presence...
of heat stroke amid the COVID-19 pandemic. All elements are in the commitment to take precautionary measures for heat stroke so that an accurate diagnosis can be made between heat stroke and COVID-19.

The conclusion in a retrospective clinical record study conducted was that the core temperature of patients with maximal temperature would be treated more quickly by taking appropriate cooling measures and cooling duration.

The conclusion of the findings was that doing work activities or outdoor exercise would allow a risk of heat stroke due to heat stroke or hot temperatures outdoors.

4. Discussion

Impact of Climate Change on the incidence of Heat Stroke (HS)

Heat stroke is a disease caused by extreme heat. The result of the temperature is very high so that the body does not allow it to release all body heat from the inside, causing a heat stroke. Heat stroke is common in adults or those who explain the elderly because the body's ability is not optimal enough to maintain body temperature while the environmental temperature is very high [2].

This journal discusses the greatest potential for those who will experience heat stroke, namely the elderly or advanced adults, outdoor workers, outdoor swimmers, until now, namely someone who is also at risk of contracting COVID-19 [4]. According to Yan Wang et al., explained that the frequency of patients receiving treatment due to heat stroke is still relatively high from time to time. He further explained that the most vulnerable group is the elderly adult group.

The same thing was also expressed by M. Seth et al. that the conclusion of the findings made that outdoor workers would be very likely to experience heat stroke. In fact, it is not possible that the disease can also lead to death [5].

All authors in the research journals reviewed made cooling treatment as a part of heat stroke management. Management of patients with heat stroke are the most effective is to plunge into the water cold. If the state number 1 is not possible, it can be in taking other precautions that do watering directly into the body, the patient to do the cooling, the management of patients with heat stroke can also be added by setting up or insert fluids infusion [6]. This heat stroke event cannot be ignored since the consequences of heat stroke are very serious, but the risk can be eliminated by the use of appropriate cooling equipment. Preventive measures in the form of preparing cold equipment are needed to prevent the elderly as a high-risk group from experiencing extreme heat stroke [7].
has been illustrated by the journal provided that in addition to the elderly, this is also mainly occurs in athletes or soldiers who underwent the activity physically the extreme [8].

It is very important for those at risk groups to know the precautions and treatments that can be taken if they experience heat stroke. [9] This journal has well explained some of the consequences caused by heat stroke from heat stroke in various countries as well as the management methods which are not much different.

5. Conclusion
This heat stroke event cannot be ignored since the consequences of heat stroke are very serious, but the risk can be eliminated by the use of appropriate cooling equipment. Preventive measures in the form of preparing cold equipment are needed to prevent the elderly as a high-risk group from experiencing extreme heat stroke. Management of patients with heat stroke are the most effective is to plunge into the water cold, Writer majority report that cases of heat stroke due to heat stroke can be cured with conservative treatment.

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