

WORLD NURSING EDUCATION AND EVIDENCE BASED PRACTICE CONFERENCE

August 20-21, 2018 Osaka, Japan

A vast correlation of outdoor temperature and incidence of adults having community-onset bacteremia in the emergency department

Wan-Chen Yang¹, Ching-Chi Lee¹, Chih-Chia Hsieh², Chung-Hsum Lee², Chao-Yung Yang² and Chih-Hsien Chi²

¹Madou Sin Lau Hospital, Taiwan

²National Cheng Kung University Hospital, Taiwan

Background: Bacteremia is associated with significant healthcare costs and mortality and thus bacteremic patients need high healthcare cost and large facility manpower. Although several predictors of bacteremia onset were discussed in the literature, the relationship of outdoor temperature and bacteremia incidence was lacking.

Objectives: To establish the correlation of outdoor temperature and incidence of community-onset bacteremia among the Emergency Department (ED) visits.

Methods: In a retrospective, cohort study, ED visits and adults with community-onset bacteremia in the ED were monthly calculated in the National Cheng-Kung University Hospital during the period between January 2007 and June 2014. The bacteremia incidence was defined as the bacteremia onset among all the ED visits. The average outdoor temperature was obtained by Pingtung, Kaohsiung, Tainan and Chiayi weather station. The relationship of temperature and incidence was tested by the Pearson's correlation.

Results: Of the total 560,904 ED visits, 3,223 adults having community-onset bacteremia resulted in the overall incidence of 0.57%. Among causative microorganisms in these bacteremic patients, the leading was E. coli and the most common origin of bacteremia was urinary tract infection. The highest and lowest bacteremia incidence was 1.02% in August 2008 and 0.15% in November 2013, respectively. The monthly mean (standard deviation) of outdoor temperature is 24.3 oC (4.3 oC). Of note, the vast correlation ($\gamma=0.287$, $P=0.006$) of outdoor temperature and bacteremia incidence was disclosed.

Conclusion: Due to the vast association of outdoor temperature and bacteremia incidence, the facility should adjust the crew manpower and bed space in accordance with the outdoor temperature, to achieve the appropriate care for bacteremia patients in the ED.

Biography

Wan-Chen Yang is a Nurse Practitioner and works at Intensive Care Unit of Madou Sin-Lau Hospital, Tainan, Taiwan. She is good at clinical and critical care nursing fields.

emmayang0529@gmail.com