

The Effects of Weather on the Incidence of Sudden Sensorineural Hearing Loss: A Five-year Population-based Study

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Abstract

Objective:This study utilizes 5-year population data to examine the association between weather conditions and the incidence of sudden sensorineural hearing loss (SSNHL) in Taiwan with a specific focus on ambient temperature, relative humidity, atmospheric pressure, rainfall and total hours of sunshine. **Method:** The data, covering the period from 1998 to 2002, is sourced from the Taiwan National Health Insurance Research Database (NHIRD), with a total of 8712 first-time admissions being identified from the database by a principal diagnosis of unspecified sudden hearing loss (ICD-9-CM code 3882). After controlling for time trend effects, this study adopted the autoregressive integrated moving average regression method as a means of evaluating the effects of climatic and monthly factors on SSNHL incidence rates. **Results:**Although significant associations were found between ambient temperature, relative humidity and the SSNHL incidence rates for the total population, after adjusting for seasonality, months and trends, the significant relationship between SSNHL incidence rates and the climatic parameters disappeared. **Conclusions:** This study has demonstrated that after adjusting for seasonality, months and trends, there is no significant relationship between monthly SSNHL incidence rates and weather conditions. Therefore, the theory that weather is a triggering factor in SSNHL pathogenesis is not supported by this study.