Climate and human mortality in Tehran, Iran

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Abstract

This study quantifies the effects of stressful weather on cause-specific mortality (cardiovascular, respiratory and stroke) in Tehran during 2002-2005. Factor analysis were used to reduction daily climate factors. The climate factors have been reduced to two components including air temperature and precipitation. Then delayed effects, up to 7 days were accounted for. The regression models were used to assess the effect of climate factors on daily mortality. The association between temperature and precipitation with daily cause specific and total mortality was found to be significant. Climate components are more important in winter season than other seasons. Cardiovascular and respiratory diseases mortality were more sensitive to stressful condition at shorter lag time (0-3 days) while stroke and total mortality were sensitive at longer lag times (4-7days). These results are important information for formulating public health policies.

Keywords: Weather, Mortality, Factor analysis, Tehran.