

Project Title: The impact of climate change on elderly suicide deaths in Hong Kong and implications to suicide prevention

Abstract

Background: The linkage between mental health and climate has not been fully explored, particularly in the local context. Suicide is considered as a major preventable mental health problem. We aim to improve public health knowledge about the association between elderly suicide mortality and extreme climate conditions in Hong Kong, with a view to informing development of a weather-driven intervention on suicide prevention.

Objectives: 1) Study the trend in elderly suicide deaths and meteorological variables in Hong Kong; 2) Identify risk factors of local elderly suicide deaths in terms of meteorological variables; 3) Examine if global warming contributes to the local trend in elderly suicide deaths; and 4) Better inform frontline services in providing weather-driven programs/interventions for elderly suicide prevention in Hong Kong.

Hypothesis to be tested: 1) Elderly suicide death rate increases with longer period of very hot days. 2) There exists a threshold of ambient temperature above which the elderly suicide death rate increases.

Design: A retrospective study

Setting: All suicide deaths occurred among Hong Kong elderly during 1976 to 2015 as identified from the International Classification of Diseases codes of death records.

Method: A time series approach (e.g. transfer function model) will be adopted to examine the trend and meteorological risk factors of elderly suicide mortality in Hong Kong. Time-related variables like various festivals will also be controlled for.

Expected results: It is expected to reveal higher elderly suicide rates with hot weather. Based on the findings, practical recommendations on weather-driven suicide prevention interventions/program will be made.