THE GLOBAL DISTRIBUTION OF DENGUE: PAST, PRESENT AND FUTURE IMPACTS OF CLIMATE CHANGE

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Introduction

Approximately 2.5 billion people are at risk from dengue. Climate change could drive the epidemic potential of this disease through temperature impacts on both the virus and the mosquito vector. We describe the past and present global distribution of transmission and estimate possible changes to dengue distribution arising from climate change.

Methods

Two systematic reviews:

1. Geographically defined case reports, and
2. Models of climate change impacts on transmission

Results

The current distribution of dengue is generally less extensive than historical limits but several countries have recently reported transmission for the first time. Over the past century, dengue has contracted in the southern states of North America, much of Australia, parts of Southern Europe and Japan, China and South Africa, most likely due to piped water supplies and removal of water storage, changes in housing conditions and vector control measures. Modelling studies consistently project increased climatic suitability for transmission this century and an expansion of the geographic regions at risk of dengue. An increase in temperature of just 1°C can substantially increase transmission potential.

Conclusion

Existing models of transmission provide incomplete projections of disease risk as the geographic limits to transmission result from a complex interaction between physical, ecological and social factors which have not been explicitly included in current, linear models. Urban poverty (eg, poor housing quality and stored domestic water) remains an important promoter of dengue transmission in regions with favourable climate, while factors associated with prosperity (eg, surveillance and control measures) can limit transmission in climate-suitable areas.

VARIATIONS IN PERINATAL DEPRESSION, ANXIETY AND SEVERE MENTAL ILLNESSES BY MATERNAL AGE AND SOCIOECONOMIC GROUP: A POPULATION-BASED STUDY IN UK PRIMARY CARE DATA

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Introduction

Maternal perinatal mental illnesses are crucial public health issues and mostly addressed in UK primary care. This study was to assess whether there were variations in the burden of mental illnesses by age and socioeconomic status (SES).

Methods

We randomly selected one pregnancy ending in a live birth for women age 15–45 years from 1994 to 2009 from The Health Improvement Network, a nationally representative electronic primary healthcare database. We assessed the association of maternal perinatal depression, anxiety and severe mental illnesses (eg, schizophrenia) with maternal age and SES (measured by the Townsend Index) using logistic regression. We checked for evidence of effect modification between age and SES using a likelihood ratio test for interaction.

Results

Compared with the highest socioeconomic group, women age 35–45 years in the lowest socioeconomic group were 2.8 times (95% CI 2.4 to 3.4) more likely to have depression during pregnancy and 2.4 times (95% CI 2.1 to 2.7) after pregnancy whereas women age 15–24 years were 1.4 times (95% CI 1.1 to 1.8) and 1.6 times (95% CI 1.4 to 1.8). Similar pattern was found for anxiety. After mutually adjusted for age and SES, older women or women with lower SES were also more likely to have severe mental illnesses.

Conclusion

We find that women with lower SES are more likely to have perinatal mental illnesses. This is more evident in older than younger women for depression and anxiety. Perinatal healthcare professionals therefore should be aware of this and provide further effective interventions to this high-risk group.