

Annual Congress &amp; Medicare Expo on

# Primary Healthcare

April 25-27, 2016 Dubai, UAE

## Probability mapping to determine the spatial risk pattern of acute gastroenteritis in Coimbatore district, India, using geographic information systems (GIS)

**Pawlin Vasanthi Joseph**  
Nirmala College for Women, India

**Background:** Maps show well the spatial configuration of information. Considerable effort is devoted to the development of Geographical Information Systems (GIS) that increase understanding of public health problems and in particular to collaborate efforts among Clinicians, Epidemiologists, Ecologists, and Geographers to map and forecast disease risk.

**Objectives:** Small populations tend to give rise to the most extreme disease rates, even if the actual rates are similar across the areas. Such situations will follow the decision-makers attention on these areas when they scrutinize the map for decision making or resource allocation. As an alternative, maps can be prepared using *P*-values (probabilistic values).

**Materials & Methods:** The statistical significance of rates rather than the rates themselves are used to map the results. The incidence rates calculated for each village from 2000 to 2009 were used to estimate  $\lambda$ , the expected number of cases in the study area. The obtained results are mapped using Arc GIS 10.0.

**Results:** The likelihood of infections from low to high is depicted in the map and it is observed that 5 villages namely, Odanthurai, Coimbatore Corporation, Ikkaiboluvampatti, Puliakulam, and Pollachi Corporation are more likely to have significantly high incidences.

**Conclusion:** In the probability map, some of the areas with exceptionally high or low rates disappear. These are typically small unpopulated areas, whose rates are unstable due to the small number of problems. The probability map shows more specific regions of relative risks and expected outcomes.

### Biography

Pawlin Vasanthi Joseph completed her PhD in the field of Environment Management and Biotechnology from the Defence Research and Development Organization – Centre for Life Sciences, Bharathiar University, Coimbatore, India. She has published 10 papers in peer reviewed journals and has presented 14 papers in national and international conferences. Currently, she is the Head of the Department of Zoology at Nirmala College and Co-ordinates the Career Oriented Program in Vermitechnology and the Star College Scheme for strengthening of Life Sciences, Department of Biotechnology, Government of India.

[pawl\\_06@rediffmail.com](mailto:pawl_06@rediffmail.com)

### Notes: