

S11 – A Geographical Study of Child Injury in Hong Kong: Spatial Variation among 18 Districts

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Purposes/Objectives: This study aims to provide a comprehensive comparison of injury accident and emergency attendance rates among 18 districts through 2001 to 2012 by spatial analysis and explored the relationship between injury and socio-economic statuses. The findings would be useful for injury prevention, constant monitoring and resource planning.

Activities/Programmes:

1. Generate injury information to the public
Graphical information on district-based injury were generated and published online for general public's access. The reader-friendly information graphics allows comprehension by both adults and children to raise their awareness on their community's injury situation.
2. Meeting with district stakeholder
Meetings with district councilors were held after the publication of the research results to discuss study implications and potential improvements that could be done in respective districts in order to protect children from injury.
3. Press conference
Press conference was held releasing the results of the study. 3 electronic media, 14 local newspaper and 58 local and oversea portals reported on the press conference, reaching audiences in Hong Kong and oversea communities.
4. Media interviews
Follow-up interviews on local Chinese and English radio channels were conducted with our investigator to provide more in-depth insights on childhood injuries to the general public.

Targets/Recipients: Parent, Health professional, Policy maker, District council, Social worker and traffic department

Expected and Actual Participation: District council, traffic department, general public

Benefits Derived:

1. Injuries resulting in AED attendance by year and district were generated based on 12 years data (2001-2012), allowing the generation of by district injury pattern for policy advocacy and resource allocation purposes.
2. Injury infographic for each district to allow easy access and comprehension by social workers, community workers, NGOs and the general public and to be empowered to execute relevant actions to improve safety of the community for children.
3. Recommendation to each district council served as a tool to advocate for policy or infrastructural changes to make the district safer for children.

Conclusion:

1. Around 30% of injuries are avoidable
From 2001 to 2012, there are a total of 742,552 child injuries leading to AED attendances in Hong Kong. This is equivalent to 61,879 cases per year with a direct medical cost of HK\$43 million per year. The childhood injury rate varied widely among the 18 Districts. If the injury rate of all other districts can be reduced to the rate level of the lowest one, a total of 19,488 injuries could potentially be prevented per year, accounting to 31.5% reduction per year.

2. Injury pattern varies across districts

Risks of different injury types in children aged 0 to 19 showed considerable variations among the 18 districts. Although the attendance rate has decreased for all types of injury over the 12 years with the exception of child abuse, further heat-map analysis illustrates the improvement in rankings can be achieved in comparison with peer districts. The change in rankings for unintentional injury showed less variation in each district across years. In other words, those with higher rankings in the past are more likely to perform the same in later periods. For example, industrial injuries are clustered at industrial areas like Tai Po, Tuen Mun and Kwai Tsing and the ranking among 18 districts are similar across years. For traffic injuries, the districts located in the northern and southern part of Hong Kong consistently had higher risks. This suggests that unintentional injury may be more related to environment and location.

3. Higher socioeconomic status (SES) districts associated with lower risk of injury

For child injury as a whole, regression analysis showed that injury is associated with socioeconomic status. Among the four social indicators, decreasing average household size, increasing median household income and increasing labour force participation rate are significant protective factors. Male is more susceptible to injury as well, after controlling for the four social indicators.

4. Current injury database should be improved and integrated with other databases

AED attendance records have 30% of unclassified cases and 70% of cases missing International Classification of Disease coding. In addition, district of occurrence and socio-economic status were not recorded. This poses difficulty for further analysis that aids resource planning such as preventive, medical and rehabilitation services.

An enhanced database with the above information and linked to other official databases such as traffic databases from police and Transport Department, child abuse databases from Social Welfare Department and industrial injury database from Labour Department would reveal the true injury burden in Hong Kong and facilitate resource planning.

5. Set up multi-disciplinary panels to advise on injuries

Injury is a major public health problem and requires joint effort from different expertise to investigate the underlying causes and devise practical prevention plan. The multi-disciplinary team should include medical professionals, social workers, educators, engineers, police and psychologists. This can ensure that injury could be tackled with different disciplines and approaches. The panel will be able to summarize common injury causes with the use of integrated database mentioned above.

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