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Road crashes second leading cause of death among children in Cape Town – UCT study

A study by the University of Cape Town (UCT)'s PhD graduate-in-waiting Zulfah Albertyn-Blanchard has found that road traffic crashes are the second leading cause of death among children living in the City of Cape Town (CoCT).

The study also found that more than 50% of child injury deaths (51.2%) were unintentional across all age groups. Older male children (aged 15-17 years) mostly died from homicide, mainly due to sharp force injuries.

Titled "The spatial distribution of injury burden of children in the western geographic service area, City of Cape Town (2011-2015)", the study found that most child injury deaths were in the Klipfontein sub-health district with homicides more likely than any other form of injury death among children.

"I found that the injury mortality pattern for children differed depending on age," said Albertyn-Blanchard. Most transport-related deaths occurred during daylight hours across all age groups. The study found that the Klipfontein sub-health district, specifically in Nyanga, had the greatest burden of child injury death, which was driven by homicidal stabbing amongst adolescent males (15 to 17 years old).

Drawing on the principles of spatial epidemiology, the study showed that Nyanga is at greatest risk of childhood injury deaths as a densely populated informal settlement. "This finding is shown to be partly due to severe deprivation linked to poverty and structural inequalities that underpin the lack of infrastructure, and resources and increase violence and safety in the community," she said.

This is the first study in South Africa and the CoCT will utilise a spatial conceptual framework to explore childhood injury mortality by incorporating spatial analysis, specifically for the transport burden. The determinants in this study covered not only demographic factors like age and gender but also economic factors like deprivation and other factors like the number of road lanes.

The study assessed the injury burden experienced by children aged 17 and younger in the CoCT between 2011 and 2015. Using routine mortuary data from Salt River Medico-legal Mortuary across four sub-health districts of the CoCT – Klipfontein, Mitchells Plain, Southern, and Western – the injury profile of children was examined.

The study used the child death review data to determine the mortality profile of children aged 17 years and under. The Childsafe data was used to determine the morbidity profile for children under 13 years, specifically RTCs. Exploratory analysis was used to describe demographic variables and create a heat map and choropleth map of injury mortality prior to a risk assessment of gender relative to various explanatory variables. Regression models adjusted for age, gender, time of day, and injury severity determined the likelihood of hospital admission for RTC injuries. Spatial regression models identified socioeconomic and geographical variables that influenced transport-related injury mortality.

Children aged 5-9 years contributed to the highest RTC premature mortality and non-fatal RTC incidents compared to other age groups. "Males are more likely to be involved in both fatal and non-fatal pedestrian RTC incidents compared to females. Hospital admittance followed by a non-fatal RTC incident was mainly reported in children aged 5-9 years compared to any other age group and was more likely to occur during afternoons or evenings over the weekend," said Albertyn-Blanchard.

"I found that children of a certain age are more vulnerable than others, especially males living in low socio-economic areas. Therefore, there is an urgent need for more sustainable and representative national injury surveillance to be integrated with routine health information systems. The monitoring of child injury burden in South Africa needs to be strengthened," she said.

Albertyn-Blanchard will graduate on 14 December with a PhD in Paediatrics. "This PhD journey has taught me the importance of viewing the world through a child-rights lens," she said.

To prevent child injuries, she said measures should be designed relative to the child's developmental stage and be collaborative across sectors such as health, urban planning, transport and education.

"Children need safe spaces that protect them during play, walking home from school and back, and in the home," she said.

Professor Shanaaz Mathews, a leading expert in children's rights and Albertyn-Blanchard supervisor, said: "This study has shown the importance of a child centred analysis of injury mortality data. Children has for too long been invisible in our injury burden response and early intervention to avert these preventable deaths are critical."

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