



### D5 A 10 Year Epidemiologic Review of Homicide Cases in Children Under Five Years Old in Fulton County, Georgia: 1996-2005

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After attending this presentation, attendees will know the epidemiology of homicide deaths certified by the Fulton County Medical Examiner's Office from January 1, 1996 through December 31, 2005 in children under five years of age and who were Fulton County residents, and they will be able to determine if the observed cases of homicide deaths among children under five years of age in Fulton County are significantly greater than expected when compared to the State of Georgia.

This presentation will impact the forensic community by enabling the local and state government officials to recognize the epidemiology of children at risk, to help them allocate limited resources efficiently, and to implement preventive measures to at-risk populations effectively. Furthermore, this presentation will enable the forensic community to recognize the continued need to collect current and accurate data on child abuse homicides and to conduct further study to determine the reasons for homicide in children under five years of age.

The primary purpose of this study is to present the epidemiology of homicide deaths certified by the Fulton County Medical Examiner's Office from January 1, 1996 through December 31, 2005 in children under 5-years-old. The secondary purpose of this study is to determine if the observed cases of homicide deaths among children under 5-years-old in Fulton County are significantly greater than expected when compared to the State of Georgia. For purposes of this study, only homicide deaths of Fulton County residents were included.

All homicide cases in children under 5-years-old were reviewed: infancy (less than 1 year old) and early childhood (1-4 years old). Chi-square values were calculated using Epi Info to determine differences in homicide among age group, race and sex variables. In addition, a chi-square test at the  $\alpha=0.05$  level was done to determine if the observed cases of homicide deaths among children under 5-years-old in Fulton County were significantly greater than expected when compared to the State of Georgia.

There were 49 homicide cases in children under 5-years-old identified over this 10-year period. The yearly distribution of these 49 homicide deaths ranged from one death in 2003 to nine deaths in 2004. Most of the cases were male ( $n=29, 59.2\%$ ) and black ( $n=44, 89.8\%$ ). Between infancy and early childhood cases, homicide victims were nearly equally divided between the two groups. However, chi-square values showed that decedents under 5-years-old are 1.7 times more likely to have died of homicide compared to decedents 5-years-old or older (OR = 1.74, 95% CI = 1.29-2.35). Black decedents < 5-years-old are 3.2 times more likely to have died of homicide compared to other races (OR = 3.21, 95% CI = 1.21-9.28). Male decedents and female decedents are equally at risk to have died from homicide (OR = 1.14, 95% CI = 0.61 – 2.11). It was also determined that the total homicide risk for children under 5-years-old in Fulton County during the years 1996-2005, at the  $\alpha=0.05$  level, is 1.8 relative to the State. Brain injury was the primary cause of death in majority of the cases ( $n=23, 46.9\%$ ). Although this study was unable to collect information on the victim's suspect/offender characteristics, it was noted that only 37% of the cases ( $n=18$ ) went to trial. Majority of the homicide investigations were under the Atlanta police jurisdiction ( $n=28, 57.1\%$ ).

Results from this study may assist Fulton County and its various cities as well as the State of Georgia in recognizing the epidemiology of children at risk to help them allocate limited resources efficiently and implement preventive measures to at-risk populations effectively.

#### **Homicide, Children, Under 5-Years-Old**