Boys at greater risk for drowning: NIH July 2, 2001

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NATIONAL STUDY EXAMINES SITES WHERE U.S. CHILDREN DROWN

Infants are most likely to drown in bathtubs, toddlers in swimming pools, and older children in other freshwater sites such as rivers and lakes, according to a study funded by the National Institute of Child Health and Human Development (NICHD).

The research, the first to present national data on where U.S. children tend to drown, was published in the July issue of "Pediatrics".

"This work shows that drowning is still a big problem, despite being very preventable," said Duane Alexander, M.D., Director of the NICHD. "These national data will greatly assist researchers in understanding where and how these deaths occur and in designing effective programs to prevent drowning."

About 1,500 children drown each year in the United States. Consistent with previous studies, the new study found that toddlers and adolescent males had increased risks of drowning, and, among adolescent males, rates were higher for African Americans than whites.

"While toddlers were most likely to drown in swimming pools and adolescent males in other freshwater sites, the reality is more complex," said the study's lead author, Ruth Brenner, M.D., M.P.H., of NICHD's Division of Epidemiology, Statistics, and Prevention Research. "Toddlers are also drowning in other freshwater sites like ponds, lakes, and rivers, and, after five years of age, about a third of drownings among African American males are in swimming pools."

Information for the study was collected from the death certificates of 1,420 children under 20 years old who died by unintentional drowning in 1995. The researchers grouped specific drowning sites into four categories: artificial pools (swimming pools and hot tubs), freshwater bodies (lakes, ponds, rivers, canals and other specified sites), domestic sites (primarily bathtubs and buckets), and salt water. This information was then analyzed by age, region, gender, and race.

Thirty-seven percent of children who drowned were between one and four years old, and 29 percent were between 15 and 19 years old. Seventy-four percent of children who drowned were male.

Among infants, the majority (78 percent) of drownings occurred in the home, primarily in bathtubs. Toddlers between the ages of one and four years were most likely to drown in

artificial pools (56 percent), but other freshwater sites also accounted for a sizable proportion of drownings (26 percent). Children over five were most likely to drown in freshwater: 54 percent, 61 percent, and 69 percent among 5-9, 10-14, and 15-19 year-olds, respectively.

After the age of five years, African American males had significantly higher rates of drowning than white males. Much of this disparity was due to an increased risk of drowning in swimming pools, where rates were up to 12-15 times higher among African American males than among white males.

Among females, drowning rates were low after the age of five years, but African American females were also at increased risk of drowning in a swimming pool compared to white females of the same age.

"Researchers have known that African American males are at a greater risk for drowning, but we didn't expect this to be due to an increased risk of drowning in swimming pools," said Dr. Brenner. "Additionally, a number of these deaths were in pools accessible to the public, rather than in private residential pools. Public pools hadn't been a big area of concern; however, our results present a very different picture."

Dr. Brenner said that there is a need to seek possible explanations for this racial disparity. One possibility is that African Americans may be exposed to more dangerous situations in pools, such as overcrowding or lack of a lifeguard. Differences in swimming ability and availability of swimming lessons may also play a role. Because of the variety of sites in which children drown, Dr. Brenner emphasized the importance of a multi-faceted approach to drowning prevention and cited several recommendations from the American Academy of Pediatrics. These include teaching all children five years of age and older to swim, constant supervision of infants and young children around all bodies of water, installation of fencing separating residential pools from the house, use of personal floatation devices when riding on a boat, teaching children never to swim alone, education on the dangers of alcohol and drug consumption during aquatic activities, and the need for parents to learn CPR.

Other authors of study were Ann C. Trumble, Ph.D., of NICHD, Gordon S. Smith, M.B., Ch.B., M.P.H., of the Johns Hopkins University School of Public Health, Eileen P. Kessler of the Consumer Product Safety Commission, and Mary D. Overpeck, Dr.Ph., M.P.H., formerly of NICHD and now with the Maternal and Child Health Bureau.

The NICHD is part of the National Institutes of Health, the biomedical research arm of the federal government. The Institute sponsors research on development before and after birth; maternal, child, and family health; reproductive biology and population issues; and medical rehabilitation.

Additional information on water safety and drowning prevention can be found on the CDC website, http://www.cdc.gov/od/oc/media/pressrel/r010525.htm.