

# TREND OF CHILD INJURY AND DROWNING IN THAILAND, AND CHILD SAFETY PROMOTION INITIATIVE

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Child Safety Promotion and Injury Prevention Research Center (CSIP) at the Department of Pediatrics, Faculty of Medicine Ramathibodi Hospital was established in 2000. The roles of CSIP are in raising awareness of child safety promotion through education and by engaging of all societal sectors in childhood injury prevention through knowledge sharing, documentation, and monitoring processes.

The strategy to conduct injury mortality monitoring is by working closely with the Bureau of Registration Administration, the Ministry of Interior, and the Ministry of Public Health to obtain and analyze data of child deaths. We conducted a study analyzing the historical data obtained from 1985 to 1996. We found over 4,000 child injury deaths per year, with drowning as the leading cause. Moreover, the trend was increasing over time comparing to the reports from Sweden and Japan, whereas the trends were moving downwards (Fig1). (Plitponkarnpim *et al* 1999).

The National Child Protection Committee, Bangkok Child Protection Committee, and six Provincial Child Protection Committees collaborate on panel studies at these multidisciplinary meetings of Child Death Review (CDR), carefully reviewing all external causes of deaths. Data show

that over four and half thousand Thai children aged 1-14 years died from drowning between 1999-2001, accounting for 15% of all deaths and 47% of injury deaths. The age group 1-4 years of age had the highest drowning rate, being 22 per 100,000 (Plitponkarnpim *et al*, 2012).

Through the lessons of Child Death Review, it is often possible to understand the host-environment factors and risk, thereby leading to possible intervention development. Drowning events may be classified into two types. Type I occurs in the under-five-year-olds, around or within the home, from brief lapses of adult supervision with the objects being buckets, bathtubs, or other domestic water containers. Drowning Event Type II happens to those between 5-9 years, typically from falls into pools, ponds, dams, or natural water sources in the neighborhood areas. Fifteen percent occurred during swimming.

Parental awareness regarding preventative measures for young children could be strengthened by increasing messages with 'case reports' and preventive messages ('home safety rounds') via responsible organizations and public media. One of the aims for change is termed 'social mobilization,' where it becomes everyone's business to get involve in children

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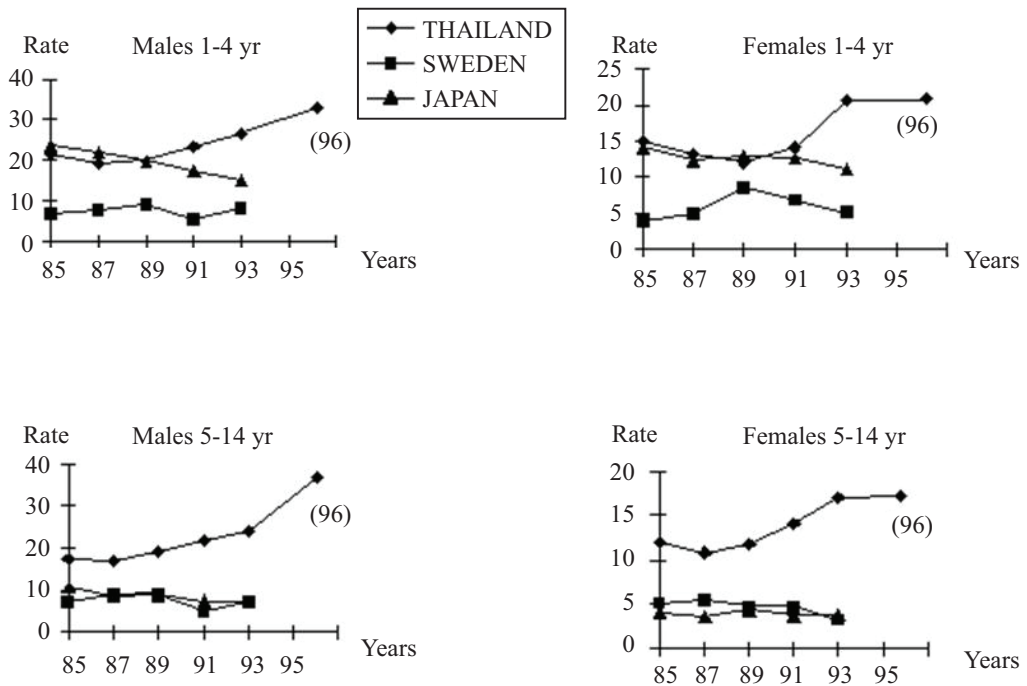


Fig 1—Trends in child injury mortality rates per 100,000 children, by age group, in Thailand compared with Sweden and Japan during 1985-1993.

injury prevention and safety promotion. Our center provides a website to give out knowledge to the community (Child Safety Promotion, nd).

From the child death review, we found that children aged 5-9 years attempt dangerous activities independently, and injuries usually occur while playing with others. They are inexperienced with playing in water or swimming, and have inappropriate safety practices that can lead to drowning. It is agreed that those below 9 years in fact understand specific risks, but they may not be able to generalize to new situations. Importantly, supervision may vary across caregivers. Irrespective of how good care may be, there is never 100% attentiveness.

Environmental engineering modification therefore contributes in reducing

injuries, thus forming multi-layers of protection. The “Five Water Safety Learning Objectives for a 7 Year-Old-Child” includes the identification of high-risk water locations, floating for 3 minutes, swimming for 15 meters, and skills to help others, such as, shouting, and throwing and handing across a life jacket.

The Survival Swimming Curriculum 2009 was developed by the Bureau of Non-Communicable Disease, Department of Disease Control, Ministry of Public Health to promote accident prevention skills in children (Bureau of Non-communicable Diseases, 2009). The curriculum includes three important topics: water safety knowledge, swimming and survival, and water rescue. Getting students to learn how to swim and all that goes with it is now part of

Table 1  
The prevalence of childhood injury in Thailand during 1999-2001  
(Plitponkarnpim *et al*, 2012).

	Overall Injury		Drowning		Transport-related	
	Male	Female	Male	Female	Male	Female
Ages 1-4	38.6	23.8	22.0	11.2	6.7	4.6
Ages 5-9	28.0	15.5	15.9	7.5	5.4	3.8
Ages 10-14	27.6	15.5	5.4	5.5	9.9	4.2

the national curriculum. This is an example of indirect engagement with stakeholders.

During home visit, parents are helped with identifying the risk objects, areas and time. It is expected that this model will be adopted throughout the country as part of the 'Well Child Care Program', taking place initially at our hospital. Later home visits can be made to all children from 9-months-old. Some of the CSIP research is 'user based' rather than solely for academic purposes. Along with National Consumer Protection Group, CSIP has produced warning labels for various domestic products and appliances. As part of the agreed policy, injury information for parents is now incorporated into the National Child Health Record Book.

In conclusion, drowning is a common childhood injury in Thailand. Drowning in children under-five-years-old commonly occurs around or within the home from brief lapses of adult supervision involving domestic water containers; while in children between 5-9 years, typically from involves pools, ponds, or natural water sources in the family neighborhood areas. The important preventive measure for young children is adult supervision, and for older children, it

is water safety knowledge and swimming survival skills (Table 1) (Plitponkarnpim *et al*, 2012).

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