

## DISCUSSION

The results of the current investigation into 25 deaths of young children from drowning incidents in bathtubs revealed that inadequate carer supervision was the primary contributing factor. The results also illustrated a number of other noteworthy findings:

- ~80% children aged two years of age and under;
- ~70% children male;
- ~70% incidents occurred in the afternoon (12:00 - 6:00pm)
- ~80% incidents occurred on a weekday;
- ~50% incidents occurred in winter;
- 96% incidents occurred at the child's usual residence;
- 64% incidents occurred when the child was bathing with another older child, usually a sibling; and
- ~15% of the bathing-related drowning deaths involved a bathtub seat.

These findings supported many of the findings from Williamson et al. (2002), in that infants (i.e. under two years of age) were the group most at risk of a drowning incident in a bathtub. The current study also supported Williamson et al's. (2002) findings that the largest percentage of deaths occurred in Winter and at the child's usual residence. A comparison was unable to be made with time of day. Most significantly, the current study supported Williamson et al's. (2002) finding that being left in the bathtub without direct adult supervision was the single biggest contributing factor.

As all of the Victorian shared bathing deaths of children under two years of age from Byard et al's. (2001) study (n=8) were also included in the current study, it would be of no use to make comparisons with the findings of the current study. However, Byard et al. (2001) identified a number of factors in relation to these deaths worth reiterating.

In terms of the aquatic environment, Byard et al. (2001) noted that the bathtub is not a safe setting for unsupervised children as the sides are smooth and there are no projections for holding on to if the child falls. In terms of the age of the child, Byard et al. (2001) argued that young children are at risk of drowning because of their lack of physical strength and co-ordination to remove themselves from a dangerous situation, and too young to understand water as a hazard. Understanding water as a hazard was also relevant to the other child present in the bath at the time of the incident, as they were also all aged five years and under. Byard et al. (2001) pointed out that these other children are too young to realise the necessity of rescuing a younger sibling once a submersion incident occurs, and are also not an appropriate person to supervise a child under five years of age in the bathtub. It was noteworthy that 64% of the incidents where the child was bathing at the time, occurred in the context of shared bathing. Carers need to understand that another older child is not an appropriate substitute for constant and competent adult supervision (See Recommendation 2).

In the current study, the deceased was most often the youngest child in the family. Previous literature supports the current study in that bathtub drownings most often involved children less than two years of age. There were however six children (23%)

in the current study aged three to five years. This indicates that these older children are also at risk of drowning in the bathtub even though they may appear to have developed the physical strength to recover themselves from a submersion incident.

Carers reported bathing the deceased and other children previously without direct and constant supervision without experiencing any incidents of unintentional immersion. It appears that these inadequate bathing practices became habit. Only one of the carers reported having been advised against her bathing practices of the child, however it was a case where the carer reported laying the infant on their back in the water. A possible strategy to address this issue could consist of public promotion of safe bathing practices in the form of a fact sheet, with particular emphasis placed on carer supervision (See Recommendation 2).

In all 22 cases where the child was bathing at the time of the incident, the carer made a conscious decision to leave them in the water without direct adult supervision. In addition, in the three cases where the child was not bathing, the carer was aware that there was a water hazard in the house where the young child was assumed to be happily playing. It was not evident in the cases that the carer's reasons for leaving the young child unsupervised were a result of a *momentary distraction* such as a phone call or knock at the door. With the exception of one case, where the carer was reported to be physically ill, it was not reasonable that the carer left the bathroom. It was either a matter of the carer not being organised by having prepared clothing or a towel for the child prior to putting them in the bath, or the carer left the bathroom to engage in other household duties, such as cooking and cleaning. This issue was raised in a number of the Coroner's findings into these deaths.

*It must be remembered that young children generally are not masters of their own destiny and accordingly although each parent has a clear responsibility to supervise there is a wider community problem to be addressed of continuing deaths involving young children of tender years which are clearly preventable.*

*Sometimes matters such as bath supervision might be regarded as matters of common sense - which everybody knows about. However, I am satisfied as a result of many similar cases which have come before the Coronial Service for inquest and of which this is one - that many people do not know of the risks involved and the vigilance required in the bathing of infants. [Coroner's Finding - Case 4460/1989]*

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*... whilst I acknowledge that a parent or care giver may not be able to provide twenty-four hour supervision, as momentary distractions do occur, vigilance is required in the bathing of children as such momentary distraction, even by the most attentive and concerned person, can have disastrous outcomes. This case gives rise to the necessity to reiterate to parents and care givers of children that leaving a child unattended in a bath clearly poses a high risk of drowning. [Coroner's Finding – 2057/1991]*

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*Although it is impossible for a parent or caregiver to supervise a child for 24 hours of the day, it is regarded as necessary that when a child*

*of such a young age is placed in a situation where danger could occur, constant supervision is required. [Coroner's Finding – 1348/1992]*

Evidence from the cases revealed that the most common chain of events was that children were left unattended in the bathtub whilst their carer engaged in home duties or themselves. This theme was particularly prevalent in the shared bathing scenario (pages 19-23). This indicates, as mentioned in one of the above findings, that carers did not sufficiently understand what actions / behaviours constituted *adequate and constant supervision*. The nature of the coronial jurisdiction makes it difficult to ascertain carers' rationale for the level of supervision provided or their understanding of safe bathing practices. In most instances carers made a statement to the police, however this consisted primarily of a narrative of events leading up to the death. This factual account does not generally reveal reasons for behaviour, unless the matter proceeds to an Inquest. At an Inquest witnesses are called and there is a process of cross-examination where such questions could be asked. In the current study there were few cases where an inquest was held.

A possible strategy to address the issue of carers' knowledge of supervision could be to re-define constant / adequate supervision in the context of bathing a young child in physically actionable terms so that there can be no uncertainty about what is required by carers (See Recommendation 1). In 1997, the *Victorian Drowning Summary* for the period 1 July 1996 to 30 June 1997, produced by the Royal Life Saving Society Australia, Victoria Branch featured a picture of a young child with the caption "*If you're not within arm's reach, you've gone too far. Supervise your children*" (See Appendix 3). *Within arm's reach* is a reasonable definition of adequate supervision in the context of bathing young children. In the case of bathing of infants (less than 12 months) the definition could be further refined to *physical contact*.

Another issue related to bathtub drownings of young children was the role of bathtub seats and rings. These devices have also been involved in child bathtub drownings in other Australian jurisdictions, more specifically New South Wales and South Australia. In 2002 in NSW a young boy drowned in a bathtub after being placed in a bath cradle. The Coroner directed the following recommendation to the NSW Minister for Fair Trading.

*As a matter of urgency that the Department of Fair Trading review the question as to whether baby bath frames/cradles should be withdrawn from sale until and unless satisfied as to their appropriateness and safety. [Coroner's Finding - 1460065/02] **4 months male***

In response to this recommendation, the NSW Product Safety Committee (the Committee) conducted an inquiry. The inquiry sought information from a number of sources, including the Infant and Nursery Product Association of Australia (INPAA) (the Association). According to INPAA bathing frames and cradles [i.e. cloth material on a wire frame] have been available in Australia for in excess of 25 years. Other designs of the devices have since been developed, including plastic moulded products (See Appendix 1).

INPAA reported that during the preceding 12 month period a total of 191,000 new devices had been sold (85,000 baby seats; 76,000 recliner [fabric]; and 30,000 moulded [plastic]) within a market of 250,000 births per year. INPAA informed the Committee that labelling, standards and community education were ways that could improve the safe use of the devices.

In NSW mandatory labelling on products was introduced in the mid 1980s. While labelling is not compulsory throughout Australia, many products imported into Australia contain warning labels. In relation to standards, the INPAA formed a working party that has drafted an industry standard, anticipated to be agreed to nationally. The draft standard, titled *Bath Supports for Domestic Use* addresses such things as performance requirements, test methods, marketing and labelling, packaging and instructional literature.

INPAA identified a number of areas where improvements to the safety of these devices could be made and proposed the following action items to the Committee:

- convene a working party to evaluate the current ASTM Baby Seat standard (American Standard);
- develop an Australian Industry Standard for all baby bathing products as a precursor for establishing an Australian standard through the normal processes of Standards Australia;
- improve labelling on baby bathing products by including pictorial depictions highlighting danger (See Appendix 4);
- include measurable performance standards in respect of construction, labelling and testing procedures; and
- develop education strategies which will enable greater consumer awareness of the correct usage of products.

The Committee prepared a draft Prohibition Order following the inquiry, which was circulated for comment in December 2003. The Order is yet to be finalised and published in the *NSW Government Gazette*.

According to the literature, bathtub seats have also been a significant issue of concern in the United States of America (U.S.A). The main point of discussion surrounding these deaths is whether to remove bathtub seats and cradles from the market. From an examination of the three deaths involving bathtub seats in the current study there was insufficient evidence to determine whether such action should be taken. In addition there is no data available on the frequency of use of such products in Victoria to enable any determination of the level of risk such devices pose. Data on product sales is available, however these numbers do not account for the number of devices given away or recycled.

There are two opposing arguments as to whether these devices pose a risk and should be removed. One is that any device that encourages carers to leave a young child unattended in the bathtub should not be available. The other is that when used correctly / under constant supervision, such devices greatly assist carers with bathing a young child. Evidence from previous research, in particular findings from Rauchschalbe et al's. (2002) study, appear to support the removal of bathtub seats. Rauchschalbe et al's. findings from a series of focus group interviews revealed that carers who had used bathtub seats felt more comfortable leaving the child unattended in the bath if they were in a bathtub seat, but had difficulty cleaning the infant thoroughly (see literature review page 3).

Determining carers' perceptions of the advantages and disadvantages of bathtub seats in the current study was problematic. The information contained in the coronial file from the investigations conducted was insufficient to draw a conclusion. Further Australian based research into carer's perceptions of the use of bathtub seats is required to resolve this issue (See Recommendation 4).

In addition, the role of bathtub seats in drowning deaths of young children should be monitored by the injury prevention community. This could be done using the National Coroners Information System (NCIS) at the jurisdictional Coroners' Offices. It would also be of benefit to all the Coroners' Offices if they were provided with the final report from the NSW Product Safety Committee (See Recommendation 4).

Fortunately, the number of drowning deaths of young children in bathtubs is small, and evidence from the current study demonstrated that each case was preventable. It was also clear that these deaths most often occurred in a very specific age group, in both males and females in almost identical circumstances across time and location. To ensure that these deaths do not continue to occur in Victoria, constant and ongoing awareness of the risk factors associated with these incidents is required. The findings of the research highlighted the need for the following actions to be understood by parents/carers when bathing children in the 0-5 year age group (See Recommendation 2).

- never, under any circumstances, leave children in the bath without constant and competent adult supervision;
- adequate supervision of children aged 0-5 is within arm's reach, children less than 12 months is physical contact;
- another child is not an appropriate substitute for adult supervision; and
- children's clothes and a towel should be prepared and taken into the bathroom prior to water entry;
- water should be removed from the bathtub immediately;
- in situations of shared bathing, both children should be removed and water emptied immediately;
- bathtub seats and cradles should only be used under constant and competent adult supervision.

Some of these messages have already been included in the Child Health Record to raise awareness of the risks of drowning to parents of young children. Further awareness of the dangers associated with bathing young children by organisations such as the Royal Life Saving Society Australia (RLSSA), Maternal and Child Health Care Centers, KidSafe and the Royal Children's Hospital Safety Centre could further assist in providing information to parents as early as possible. This was demonstrated by Franklin and Mitchell's (2004) pilot study that Child Health Workers consulted a large number of parents / caregivers with children in the 0-5 year age group and felt that water safety information was useful and appropriate to their work.

## RECOMMENDATIONS

Based on these findings it is recommended that:

1. Royal Life Saving Society Australia (RLSSA) refine their definition of *adequate supervision* in the context of bathing of young children to *within carers arm's reach*.
2. A fact sheet on recommended bathing practices of children five years and under be developed and distributed (See Appendix 2). For example:
  - gather adequate towels and clothes and take them into the bathroom;
  - insert plug and fill bath with warm water to an appropriate level for the child's size;
  - remain in the bathroom with the child / children at **all times** keeping them **within arm's reach of you** until ready to remove;
  - another child is **not** a substitute for **adult** supervision;
  - immediately remove the plug and all children from the bath;
  - ensure that no toys have obstructed the plughole before leaving the bathroom and that the bath is free of any water.
  - **NOTE:** Bathtub seats and cradles are not safety devices and are not a substitute for constant and competent adult supervision.
3. The findings and recommendations from the NSW Product Safety Committee's review of infant bathtub seats and cradles be forwarded to all State and Chief Coroners in Australia and New Zealand;
4. Further Australian based research into carers' perceptions of bathtub seats, rings and cradles as a safety device and bathing aid is required to resolve the issue of whether to ban sale in Australia; and
5. In the interim, the development of an Australian Standard on bathtub seats should continue to completion.

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