Injury caused by baby walkers: the predicted outcomes of mandatory regulations

Peter G Thompson

ABSTRACT

Objective: To examine the potential of the New South Wales baby-walker regulation to reduce injury.

Design: Injury surveillance data were used to reconstruct baby-walker injury incidents, which were examined in conjunction with the 2000 NSW baby-walker regulation, which requires a specified level of stability and a gripping mechanism to stop the walker at the edge of a step.

Setting and participants: Injury surveillance data on injuries to 381 babies collected from hospital emergency departments in South Australia and Victoria, 1986–2000.

Main outcome measure: Injury events that would still have occurred with the regulation in place.

Results: About half (46%; 95% CI, 32.5%–59.8%) of the serious baby-walker injuries (ie, requiring admission to hospital) are caused by the walker enabling babies to reach hazards other than steps and stairs.

Conclusion: The New South Wales regulation has the potential to eliminate only about half the baby-walker injuries. Banning baby walkers altogether is preferable.

MJA 2002; 177: 147–148

BABY WALKERS are a well documented major cause of serious injury to very young children in countries where their use is common. It is estimated that about 20 000 babies annually are injured in the United States and more than 500 in Australia, with about half requiring emergency room treatment.[1-3] The failure of voluntary initiatives in the United States led the American Academy of Pediatrics to call for a total ban of the product and a recall of all existing walkers in 1995.[4] This did not occur. They have since repeated their call in 2001.[2]

In 1993, the Victorian Injury Surveillance System at Monash University called for a total nationwide ban on baby walkers. The Australian Consumers' Association joined the call in 1995, as did the South Australian Injury Surveillance and Control Unit in 1996. In June 2000, the Queensland Injury Surveillance Unit stated that the "sale and use [of baby walkers] should be actively discouraged".

The widely demanded ban in Australia may have stalled as a result of influential opinions[5,6] suggesting that the problem was inappropriate use rather than the product itself.

On 1 September 2000, the New South Wales Department of Fair Trading introduced a regulation that all baby walkers sold in New South Wales must comply with Clauses 6.1 and 6.4 of the US Baby Walker Standard.[7] This regulation specifies labelling and information standards and stability performance standards. An extended nationwide requirement based on the NSW regulation is now being considered by the Commonwealth Consumer Affairs Division, with a view to its introduction this year.

The US Standard is intended to make baby walkers safer by:

- having a base too wide to fit through a standard doorway (ie, being not less than 900 mm); or
- having a specified level of stability and a gripping mechanism to stop the walker at the edge of a step.

To comply with the US Standard, baby walkers sold in the United States have to satisfy only one of these two requirements. The New South Wales regulation has adopted only the second requirement, and does not in any way limit the direction or distance a baby can travel. It is not known how effective the braking mechanism will be in every circumstance, but for the purposes of our study it was assumed that it would be highly effective.

We examined data on baby-walker injuries with a view to determining what specifications were likely to be effective in reducing typical baby-walker injuries.

METHODS

Data source

The South Australian Department of Human Services Injury Surveillance System, which has operated continuously since 1986, automatically receives detailed information about patients presenting to metropolitan Adelaide hospitals for emergency department treatment. All presentations in which a baby walker was clearly stated to be associated with the injury were included.

Victorian baby-walker injury data were obtained from the Monash University Accident Research Centre. Only data from the original system (Victorian Injury Surveillance System [VISS], 1989–1996) were used, as the minimum dataset (Victorian Emergency Minimum Dataset, [VEMD], 1995 onwards) does not collect sufficiently detailed information for our purposes.

Injury events

The baby-walker injury reports included a separate detailed narrative description of each incident, which was used to reconstruct what happened, and to determine what proportion of inju-

Epidemiology Branch, South Australian Department of Human Services, Adelaide, SA.

Peter G Thompson, CertMechEng, MPH, Injury Epidemiologist.

Reprints will not be available from the author. Correspondence: Mr Peter G Thompson, Epidemiology Branch, South Australian Department of Human Services, PO Box 6, Rundle Mall, Adelaide, SA 5000. Peter.Thompson@dhs.sa.gov.au

ries, in particular serious injuries, would have been prevented by the New South Wales baby-walker regulation. In our analysis, the threshold of seriousness was those children who required hospital admission for continued treatment.

RESULTS

The South Australian Department of Human Services Injury Surveillance System recorded 184 baby-walker events up to October 2000, and the VISS system 197 events. The data were pooled, as no statistical differences were found in category of injury and hospital care.

The injury-causing sequences of events were classified into four main categories: "stairs", "stability", "proximity" and "others" (see Box for definitions). The NSW regulation is likely to be effective for the first two categories, but will have no effect on the last two.

The Box shows baby-walker injuries by category and hospital care. In the category "proximity", the number of injuries presenting to an emergency department (n = 88) represents 23.1% (95% CI, 18.9%–27.3%) of such injuries in all categories, but 46.2% (95% CI, 32.5%–59.8%) of all admissions.

Babies injured in a baby walker, by injury category and need for hospital care: Victorian and South Australian injury surveillance system data

	Categories				
	Stairs	Stability	Proximity	Others*	Total
Number (%, 95% CI) needing emergency room treatment	160 (42.0%; 37%–47%)	116 (30.5%; 25.9%–35.1%)	88 (23.1%; 18.9%–27.3%)	17 (4.5%)	381 (100%)
Number (%, 95% CI in category) admitted to hospital	12 (7.5%; 3.5%–11.5%)	14 (12.1%; 6.2%–18.0%)	24 (27.3%; 18.0%–36.6%)	2 (11.8%)	52 (15%)
Percentage (95% CI) of all admissions for baby-walker injuries	23.1% (11.8%–34.4%)	26.9% (14.9%–38.9%)	46.2% (32.5%–59.8%)	3.8%	100%
Effect of NSW baby-walker regulation	Effective	Effective	No effect	No effect	

*CIs not calculated for category "Others" due to small numbers.

Categories

Stairs: The baby walker enabled the child to fall over and/or down steps and stairs.

Stability: No mention was made of steps or stairs, but the baby walker either overturned, causing the baby to fall, or the baby fell out of the walker.

Proximity: The baby walker allowed the baby to easily and quickly reach hazards such as heaters, ashtrays, electrical connections, hot drinks, etc.

Others: Events unlike those above, but which still directly involved the baby walker (eg, "caught in seat" or "hit face on rim of walker", etc).

DISCUSSION

We consider the pooled sample of 381 events to be largely representative of such events in the major proportion of metropolitan Australia. These data do not support the public perception that baby-walker hazards are confined to babies falling down steps and stairs. The newly promulgated NSW baby-walker regulation and the push for an Australia-wide regulation may be driven by this rationale.

Our study shows that after an emergency department presentation only 7.5% of baby-walker injuries caused by falling down or over steps or stairs will require admission, compared with 12.1% of injuries in the "stability" category and 27.3% of those in the "proximity" category.

The categories "stairs" and "stability" together contribute 50% (95% CI, 36.4%–63.6%) of all admissions, leaving 50% mostly in the "proximity" category (46%). This is a category for which the NSW regulation would have no effect. Examples of the types of injuries in the "proximity" category are:

- An 8-month-old baby in a walker pulled the cord of a deep fryer and was splashed with oil, sustaining full-thickness burns to chest, abdomen and upper arms.
- A 10-month-old baby in a walker sustained severe finger laceration when a fly-screen door slammed shut.

Although the NSW regulation will largely remove the potential for injury from the categories "stairs" and "stability", its lack of effect on the categories "proximity" and "others" means a quarter of all baby-walker injuries, including about half of the most serious, will continue with no abatement of frequency or severity.

It could be argued that the NSW regulation is better than nothing, but, with the option of banning baby walkers, this rationale cannot be sustained.

An inadequate mandatory standard has an added disadvantage — once in place it will be assumed to be effective until proved otherwise. The term of the proposed mandatory standard is five years, and it will be reviewed about 12 months before the expiry date. There are no details of the review process in the proposal. In the meantime, if, instead of a ban, the NSW regulation is applied nationwide, about 125 babies will be unnecessarily injured each year.

If there was a total ban on baby walkers, there are options for a stationary activity centre (ie, a baby walker without wheels which allows the user to rotate) and walkers that travel a short distance only from the initial starting point.[8]

COMPETING INTERESTS

None identified.

REFERENCES

1. US Consumer Product Safety Commission (CPSC), Baby walker injuries. New report. Press release. 20 Sept 2000.
2. American Academy of Pediatrics. Injuries associated with infant walkers. Policy statement. September 2001: 790-792. Available at: http://www.aap.org/policy/0102.html (accessed July 2000).
3. Watson W, Ozanne-Smith J, Begg S, et al. Injuries associated with nursery furniture and bunk beds. Melbourne: Monash University Accident Research Centre Report, August 1997, 19, 54-64.
4. Murray T. US paediatricians urge recall, ban on baby walkers. *Inj Prev* 1995; 1: 95, 149.
5. Rose D. Chief General Counsel. Commonwealth Attorney General's Department (Trade Practices Act [1974]). Baby walkers. Sept 1994.
6. Australian Consumers' Association. Babywalkers; renewed call for caution. *Choice* 2000; April: 6.
7. American Society for Testing and Materials (ASTM). F977-97. Standard Consumer Safety Specification for Infant Walkers. West Conshohocken, Penn: ASTM, August 1998.
8. DiLillo D, Damashek A, Peterson L. Maternal use of baby walkers with young children: recent trends and possible alternatives. *Inj Prev* 2001; 7: 223-227.

(Received 24 Jul 2001, accepted 18 Apr 2002) ❑