

Victorian family day care scheme providers' knowledge of child restraint best practice

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Abstract

In Victoria nearly half of the population under 12 years of age uses family day care services. Providers of family day care services are in a position to provide important information on the best practice of child transportation to family day care educators, and families accessing family day care. Our study, conducted in November 2011, aimed to investigate family day care service providers' level of knowledge of best practice for transporting children in cars. A sample of Family Day Care Victoria service providers (n=48) completed a survey on child restraint knowledge, practices and attitudes. Of the providers surveyed, 98% stated that they knew the law regarding child restraint usage. A high proportion offered professional and practical support (92%) as well as educational resources (94%) to family day care educators with regards to safe transportation. However, when asked to provide the minimum age at which children are able to use a specific restraint type only 81% correctly identified the minimum age for booster seats, 75% for forward-facing restraints, 40% for the front seat, and 58% for adult seat belts. These results indicate that more effort is required to support family day care services who are required to ensure that transport is suitable and safe for all children injury. Family day care services act as information conduits to families with young children, and additionally educate and train family day care educators travelling daily with young children in their charge. This would ensure all children are provided optimal levels of protection whenever they travel in cars.

Keywords: Child Restraints, Education, Child Care

Introduction

In Australia, car crashes have consistently been identified as the leading cause of preventable injury and fatality in children (ABS, 2010; UNICEF, 2001). In Victoria, approximately half of all child fatalities due to unintentional injury are transport related, with 103 children fatally injured in transport related incidents between 2003 and 2005 (VISU, 2007). Australia wide, approximately 70 children die each year as motor vehicle occupants, and many more are seriously injured (BITRE, 2010).

Injury among restrained child passengers is largely due to suboptimal restraint practices. Suboptimal restraint occurs when a child inappropriately uses a restraint system designed for older occupants and/or uses the restraint incorrectly. In a 2009 population referenced New South Wales (NSW) study of restraint use, only 25% of children were found to be optimally restrained, 52% were appropriately restrained, and 62% were using the restraint correctly (Brown & Bilston, 2009). This aligns with results from a 2006 Victorian study that also reported low levels of self-reported appropriate use (Charlton et al., 2006).

In a study of children aged 2-8 years following a car crash, children that were optimally restrained suffered no fatal or serious injuries, as compared to sub-optimally restrained children, of whom 30% were seriously or fatally injured (Brown et al., 2005, 2006). Intervention strategies aimed at reducing child injury and deaths, following motor vehicle incidents, are now increasingly targeting an improvement in the rates of optimal restraint use.

Victorian legislation, as of 9 November 2009, requires the use of a dedicated child restraint for children up to the age of 7 years of age (Baker et al, 2012). Additionally, the legislation specifies that a rear facing restraint is mandatory up to a minimum age of 6 months, a forward facing restraint until the age of 4 years, and a booster seat is to be used up to the minimum age of 7 years (VicRoads, 2012).

Inappropriate restraint use occurs despite attempts at providing parents with clear and concise information regarding restraint transitions. Glanvill (2000) found that parents lacked knowledge of correct child restraint use, and many didn't understand the risk of inappropriate use. Overcoming this barrier is of paramount importance as parental knowledge of restraint transition ages has been correlated with appropriate restraint use (Bilston et al., 2008).

Child care services have successfully been used as locations to conduct several child restraint interventions aimed at educating parents on correct and appropriate child restraint usage (Keay et al., 2011; Brown et al., 2010; Oliviera et al., 2009). Child care services provide a convenient means to gain access to parents of children still using child restraint systems.

It has been demonstrated that educating family day care educators on child restraint practices leads to an increased likelihood that parents will receive child restraint information, speak with staff about booster seats, and that they'd consider restraint fit when deciding to transition a child to a seat belt (Thoreson et al, 2009). In line with these findings, Powell (1978) found that 59.9% of parents see child care services as a source for information on child rearing.

Family day care is defined by the Department of Education, Employment and Workplace Relations (DEEWR) (2010) as "a network of experienced caregivers who provide care and development activities for other peoples young children in the caregiver's own home." Family day care providers are responsible for training educators, and supplying the resources necessary for them to maintain currency with regards to child safety developments, including child restraint use. Family day care services cater for children up to the age of 12 years.

In Australia, 48% of children under the age of 11 years old use child care services (ABS, 2010). Interestingly, in Victoria only 22.8% of children under the age of 12 make use of approved child care services with family day care services accounting for 2.91% of all children in Victoria (DEEWR, 2010).

To the authors' knowledge there have been no Australian studies examining child restraint practices, nor child restraint knowledge in a family day care setting, yet family day care services may play an important and active role in relaying crucial information to parents regarding child safety. Furthermore, unlike educators in child care settings, family day care educators are likely to frequently transport the children in their care in cars.

The providers of family day care schemes administer and coordinate the operations of family day care educators. This includes; monitoring the wellbeing, learning and progress of the children within the service; assuring that all educators comply with required legislative standards for health and safety; and acting as information sources for both educators and families regarding relevant updates. More recently (2012) the National Quality Framework has introduced increased requirements relating to the family day care service providers responsibility in ensuring that transport is suitable and safe for all children.

Given the responsibility family day care service providers possess as information sources, and the serious potential consequences of sub-optimal restraint use, this study aimed to evaluate providers' knowledge of child restraints. We also examined the means with which information is passed between providers, educators and families regarding correct restraint use and best practice.

Methods

A self-report questionnaire was distributed to all providers of Family Day Care Victoria. The survey was made available for completion online (designed utilizing UNSW's KeySurvey software), as well as in a hard copy format. A list of providers was supplied by VicRoads including the contact details and mailing addresses of each family day care service, and all providers were invited to complete the survey.

Initial contact was established by email, utilizing the contact details provided by VicRoads. Follow up calls were made to invite those providers who had yet to respond to the initial email. Reminder emails were then sent to providers twice following initial contact. Providers who chose not to participate were asked about their reasons for not participating.

The questionnaire took approximately 20 minutes to complete and comprised of 40 closed response questions and one open response question. Information was gathered relating to the number of families, children, and employees attending each family day care service, and their demographic details.

Questions were also targeted towards identifying the role providers play in training educators, and specifically what information and support they provide to the educators. For example, providers were asked to report what levels of professional and practical support they offered and to detail the educational resources they supplied. Finally, providers were asked to complete a series of questions designed to evaluate their existing child restraint knowledge.

The survey remained open for just over two months in an attempt to reach a maximal number of providers, and was conducted during September-November 2012.

Incentives to complete the study were provided in the form of a raffle draw to win one of three \$100 gift vouchers from a large retail chain.

The data was analysed using descriptive techniques. The proportion of the sample with different levels of education; providing different levels of training, practical support and resources; and, accurate knowledge regarding the minimum age at which various child

restraints and the front seat can be used (as defined by the current Victorian legislation) was calculated.

This study was approved by the University of New South Wales Human Resource Ethics Advisory Panel.

Results

A total of 104 family day care service providers were identified in the VicRoads database and invited to participate. Of these, 48 (46.1%) returned surveys, representing close to half of all the providers part of Family Day Care Victoria. Where a reason for non-participation was provided, the primary reasons given were uncertainty regarding the legality of sharing family day care service information with the researchers, and high workloads restricting the time needed to complete the questionnaire. Note that only approximately 50% of non-participating providers gave reasons for non-participation.

In total, the 48 family day care services employed 1,552 educators, for an average of 32.3 educators per service; 9,965 families made use of the services, and 13,945 children attended the family day care service surveyed. There was an average of 212.0 families, and 303.2 children per family day care service. These values are likely to be an underestimate as several providers mentioned that a significant number of children were not permanently enrolled in family day care, and instead made use of its services on a casual basis according to parental need.

More than a third (45.0%, n=698) of educators, and 24.3% (n=2426) of families were identified as speaking a language other than English at home.

Participants were asked whether they provided support to the educators in their family day care service with respect to the safe transportation of children in cars. Three categories were presented including professional support (e.g. training, education), practical support (e.g. materials, restraints), and educational resources. 92% (n=44) of providers stated that they supplied professional support, and in 71% of cases this support was provided in the form of mandatory staff training. Similarly, 92% (n=44) offered practical support, and 94% (n=45) gave out educational resources relating to the safe transportation of children in cars.

Providers were questioned regarding whether they themselves, the educators, and/or the families supplied the child restraints and booster seats for children attending their family day care service. Of the providers surveyed 79% (n=38) stated that they provided the restraints, 67% (n=32) indicated the educators supplied them, and 21% (n=10) identified the family as responsible for the child restraints -N.B. 56% (n=27) of respondents reported the supply of child restraints by more than one source, hence the above adds to greater than 100%. When these results were combined to examine how many children obtained their restraints from family day care (whether from the educators or the providers) it was found that 98% (n=47) of the services bore the responsibility for providing appropriate restraints to the children in their care.

When asked about their knowledge of the laws covering how children should travel in cars 98% (n=47) affirmed that they knew the laws. A follow-up question asked that they write the minimum age at which children are able to use forward-facing restraints, booster seats, adult seat belts, and the front seat. The number of accurate responses for the forward-facing restraint and booster seat were 75% (n=36) and 81% (n=39) respectively. Knowledge of the minimum age for adult seat belt use was lower with only 58% (n=28) giving accurate responses. The minimum age for front seat use seems to be the most unclear with only 40% (n=19) of providers correctly identifying the age at which children are able to begin using this seat.

Almost two-thirds (63%, n=30) of providers stated that they had received training or education on best practice in safely transporting children in motor vehicles. The most common suppliers of training were VicRoads (60%, n=18) followed by restraint fitting organisations (30%, n=9). Of those who had received training, the average time period since the training was a year and 9 months. At the time this survey was administered, these results indicate that 12 (40%) of the respondents who had received training hadn't received it since the Victorian legislation update on 9 November, 2009 (DEECD, 2009).

Discussion

The key finding of this study is that knowledge of best practice in transporting children is relatively poor among Victorian family day care service providers. This is particularly concerning given family day care service providers National Quality Framework (NQF) responsibilities and that almost all of the providers surveyed are providing training and practical support to the educators within their schemes, and that the schemes report being responsible for the provision of restraints for the children using the scheme.

The greatest gaps in knowledge among the providers were related to the appropriate transition time to adult seat belts, and the use of the front seat. While more providers were able to confidently identify the minimum age at which a booster seat and a forward-facing restraint can be used, these numbers were less than 100% (81% and 75% respectively), and are also relatively low given the mandatory nature of the use of restraints by children within specific age ranges.

These results are similar to those reported in a Canadian study of paediatricians' knowledge of recommended child restraint transition points. The Canadian study also found that a larger proportion of paediatricians correctly identified when a booster seat and forward-facing restraint ought to be used (63% and 92% respectively), however only 33% were able to accurately state when a seat belt should be transitioned to (Rothenstein et al., 2004). This suggests health professionals, like the family day care providers, have better levels of knowledge around best practice for the youngest children.

The gaps of knowledge identified are probably not surprising given the low proportion of providers reported to have received training since the introduction of the new laws. These results demonstrate that more effort is required to educate the providers to clarify the age at which children are able to transition between restraints. Furthermore, the observed length of

time since the most recent provider child restraint training, or education session indicates that there is room for improving knowledge and maintaining currency on any child restraint safety developments.

A National Quality Framework (introduced from 1st January 2012) has been implemented across Australia to improve the quality of education and care in early childhood education and care facilities. A facet of this initiative is the introduction of a day care rating system based on 7 quality areas, including the area “Children’s Health and Safety” of which transport safety is a subset (ACECQA, 2012).

The rating system aims to motivate services to keep current on quality improvements, and give families better information with which to evaluate day care facilities including family day care. The NQF also describes the possibility of supplying increased support to facilities with poor or unsatisfactory performance. The results of this study suggest there is a need for increased support of family day care services in terms of the provision of training in best practice child occupant safety. The NQF may provide a mechanism for identifying those services with greatest need.

The results also demonstrate the potential wide reach family day services have in providing support and information about best practice in transporting children to families. The numbers observed in this survey indicate that more than 20,000 families could be reached through Family Day Care Victoria alone. Identifying potential conduits for providing detailed information about best practice in transporting children is important because we know that legislation alone cannot be relied upon alone to improve rates of appropriate usage (Brixey, Ravindran, and Guse, 2010). Meta-analyses of intervention effectiveness have demonstrated that the most successful approaches are those that combine legislation, education, incentive and distribution programs (Zaza et al., 2001; Ehiri et al., 2006). By identifying problem areas through the NQF rating system, and directing resources appropriately, family day care services may provide an opportunity to target interventions towards those parents in greatest need.

However, it is critical that information supplied through such networks is correct, and currently it appears possible that messages being communicated through the family day care network may not be in line with current best practice. This may make it difficult for family day care service providers to meet the requirements of the NQF.

The need for additional education and support beyond the legislation to encourage optimal practices is particularly important in the more vulnerable sectors of the community i.e. lower socioeconomic communities and culturally and linguistically diverse (CALD) communities. Interestingly this survey suggests a relatively high proportion of educators within family day services may be from CALD communities with more than one third reportedly speaking a language other than English at home.

Finally, we found the providers to be receptive for the most part in assisting the researchers with this study. Many providers expressed agreement that more had to be done to improve appropriate child restraint and frustration that despite their efforts parents continued to

improperly restrain their children. These findings are promising as they imply that interventions aimed at improving provider knowledge through training and education programs may be met with a high level of interest.

Limitations

Efforts were made to contact all providers in order to achieve a census sample, however only 48% agreed to participate. As no data was available from the non-responders so it is not possible to know how well the sample might represent all providers associated with Family Day Care Victoria. For this reason, the results presented here cannot be extrapolated to all Family Day Care Providers.

Further Research

Further research is needed to clarify the role providers play in dispensing appropriate child restraint use information to the educators of the children attending the family day care services, and what the current level of knowledge and practices being used by educators and families using family day care services. Further surveys are currently under way to establish these profiles

Conclusion

This study demonstrates that most family day care service providers do provide education, practical support and educational resources to their educators about how to safely transport children. However the results indicate that the current level of information about best practice in safely transporting children among family day care service providers needs to be improved. To assist family day care services in meeting the National Quality Framework responsibilities there is a need to implement processes to ensure family day care guidelines and providers maintain currency in child safety legislature and best practice.

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References

- Australian Bureau of Statistics (ABS). 2006. Population by Age and Sex, Australian States and Territories: Estimated Resident Population by Single Year of Age, New South Wales. Retrieved 16th April 2012 from:
<<http://www.abs.gov.au>>
- Australian Bureau of Statistics (ABS). 2008. Australian Social Trends, Jun 2010, cat. no. 4102.0, Canberra. Retrieved 16th April 2012 from:
<<http://www.abs.gov.au>>

Australian Children's Education & Care Quality Authority (ACECQA). 2012. National Quality Standard. Retrieved 26th of June 2012 from:
<<http://acecqa.gov.au/national-quality-framework/national-quality-standard/>>

Baker, A. Galvin, J. Vale, L. Lindner, Helen. 2012. Restraint of children with additional needs in motor vehicles: Knowledge and challenges of paediatric occupational therapists in Victoria, Australia. *Australian Occupational Therapy Journal*, 59: 17-22.

Bilson, L.E. Finch, C. Hatfield, J. Brown, J. 2008. Age-specific parental knowledge of restraint transitions influences appropriateness of child occupant restraint use. *Injury Prevention*, 14: 159-163.

Bureau of Infrastructure, Transport and Regional Economics (BITRE). 2010. Road Deaths Australia: 2010 Statistical Summary. Safety Statistics, Department of Infrastructure and Transport, pp 10.

Brixey, S. Ravindran, K. Guse, C.E. 2010. Legislating child restraint usage – Its effect on self-reported child restraint use rates in a central city. *Journal of Safety Research*, 41: 47-52.

Brown, J. Bilston, L.E. 2009. Sources of Child restraint information utilized by parents of NSW. Proceedings from the 2009 Australasian Road Safety Research, Policing and Education Conference.

Brown, J. Bilston, L. McCaskill, M. Henderson, M. 2005. Identification of Injury Mechanisms for Child Occupants Aged 2–8 in Motor Vehicle Accidents. Sydney, Australia: Motor Accidents Authority (MAA).

Brown, J. McCaskill, M.E. Henderson, M. Bilston, L.E. 2006. Serious Injury Is Associated with Suboptimal Restraint Use in Child Motor Vehicle Occupants. *J. Paediatr. Child Health*, 42: 345– 349.

Charlton, J. Koppel, S. Fitzharris, M. Congiu, M. Fildes, B. 2006. Factors That Influence Children's Booster Seat Use. *MUARC Report 250*, 93p

Department of Education and Early Childhood Development (DEECD). 2009. Retrieved 16th April 2012 from:
<<http://www.education.vic.gov.au/aboutschool/participation/parentupdate/july09/newlaws.htm>>

Department of Education, Employment and Workplace Relations (DEEWR). 2010 June quarter. Child Care Update.
ISBN: 978-0-642-78002-7

Ehiri, J.E. Ejere, H.O.D. Hazen, A.E. Emusu, D. King, W.D. Osberg, S.J. 2006. Interventions to Increase Children's Booster Seat Use: A Review. *American Journal of Preventive Medicine*, 31(2): 185-192.

- Glanvill, L. 2000. Child Restraint Issues in Victoria. Royal Automobile Club of Victoria. Noble Park, Victoria: Public Policy Group, RACV
- Keay, L. Hunter, K. Bilston, L.E. Simpson J.M. Elliott, M. Thistlethwaite, K. Ivers, R.Q. Brown, J. 2011. Direct observations of child restraint use to evaluate a preschool based education and restraint distribution program. Proceedings from the 2011 Australasian Road Safety Research, Policing and Education Conference, Perth. 10p
- Koppel, S. Charlton, J.L. 2009. Child Restraint System Misuse and/or Inappropriate Use in Australia. *Traffic Injury Prevention*, 10: 302-307.
- Oliviera, S.R.L. Carvalho, M.D.B. Santana, R.G. Camargo, G.C.S. Luders, L. Franzin, S. 2009. Child safety restraint use among children attending day care centers. *Revista de Saude Publica*, 43(5): 761-767.
- Powell, D.R. 1978. The interpersonal relationships between parents and caregivers in day care settings. *Amer. J. Orthopsychiat*, 48(4): 680-689.
- Rothenstein, J. Howard, A. Parkin, P. Khambha, A. MacArthur, C. 2004. Community paediatricians' knowledge counselling patterns and knowledge of recommendations relating to child restraint use in motor vehicles. *Injury Prevention*, 10: 103-106.
doi: 10.1136/ip.2003.004168
- Thoreson, S. Myers, L. Goss, C. DiGuseppi, C. 2009. Effects of a Booster Seat Education and Distribution Program in Child Care Centers on Child Restraint Use Among Children Aged 4 to 8 Years. *Arch Pediatr Adolesc Med*, 163(3): 261-267.
- United Nations International Emergency Fund (UNICEF). 2001. A League Table of Child Deaths by Injury in Rich Nations. Innocenti Report Card No. 2, UNICEF Innocenti Research Centre, Florence.
- Vicroads. 2012. Child restraint, booster seats and adult seat belts – Choosing and using the safest restraint for your child. Retrieved 16th April 2012 from:
<<http://www.vicroads.vic.gov.au/NR/rdonlyres/EE47F21E-1DB2-4EAF-8CDB-97F6EA3D624D/0/Choosingthesafestchildrestraintforyourchild.pdf>>
- Victorian Injury Surveillance Unit (VISU). 2007. Preventing unintentional injury in Victorian children aged 0 – 14 years: a call to action. *Hazard*, 65: 1-36.
- Zaza, S. Sleet, D.A. Thompson, R.S. Sosin, D.M. Bolen, J.C. 2001. Reviews of evidence regarding interventions to increase use of child safety seats. *American Journal of Preventive Medicine*, 21(4): 31-47.