

**Background** Family farms are unique in that children live in the midst of a dangerous workplace. Farm youth continue to experience high rates of injuries and premature deaths as a result of agricultural activities. Increased parental permissiveness has been known to be positively associated with high-risk behaviour in youth, including more frequent sexual activity, elevated pregnancy-rates, and risky driving behaviours. This study explored whether lax-inconsistent or permissive parenting (fathering and mothering) predicts youth unsafe behaviours on the farm.

**Methods** This study was a part of a larger family-based randomised control intervention study focused on youth farm safety. Pre-intervention data were analysed for 67 youth, their fathers and mothers. Families were recruited through farm publications, youth organisations, local newspapers, farmer referrals, and the Cooperative Extension Network. Two hierarchical multiple regression models were run.

**Results** Fathers and mothers who practiced lax-inconsistent disciplining were more likely to have youth who indulged in unsafe behaviours on the farm. Lax-inconsistent disciplining by fathers and mothers continued to predict youth unsafe farm behaviours, even after age, youth personality (risk-taking) and father's modelling (of unsafe behaviours) were all taken into account.

**Conclusions** Findings affirm that farm behaviours belong on the list of adolescent behaviours (like traffic violations) known to be positively influenced by permissive parenting styles. A key implication is that parents play an important role in influencing youth farm safety behaviours, and therefore need to be made the focus of farm safety interventions. Farm safety interventions need to focus not only on safe farm practices, but also promote positive parenting practices, including increased parent-youth communication about safety, consistent parental disciplining practices, increased monitoring and modelling of safe farm behaviours for youth.

#### 694 IMPLEMENTATION SCIENCE: EVIDENCE-BASED CAR SEAT EDUCATION FOR PARENTS

<sup>1,2</sup>Mikiko Oono, <sup>1,2</sup>Koji Kiamura, <sup>1,2</sup>Yoshifumi Nishida, <sup>1,2,3</sup>Tatsuhiro Yamanaka. <sup>1</sup>National Institute of Advanced Industrial Science and Technology, Japan; <sup>2</sup>Safe Kids Japan, Japan; <sup>3</sup>Ryokuen Children's Clinic, Japan

10.1136/injuryprev-2016-042156.694

**Background** According to an annual joint report from Japan Automobile Federation and National Police Agency, Japan, about 40 percent (40%) of children under age 6 do not properly use car seats in 2015. Reasons of not using it include parents' emotional opinions such as "I feel sad when a baby resisted staying in a car seat and cried" or "It will be safe if a fellow passenger can tightly hold a baby" and parent's misunderstandings such as "the death rate is not different whether or not a baby is in a car seat" or "It is not absolutely necessary to use a car seat if we do not go a long way." The purpose of this study was to reveal predisposing factors for using a car seat, and by taking them into account, we developed an effective education tool for parents.

**Methods** We conducted two online surveys from parents aged between 20 and 49 who drove a car with a child at least once a week. The survey respondents were recruited nationwide. The first survey was conducted in November 2013 to find the frequency of car seat use, the type of actions parents usually take when a child resisted staying in a car seat, and the effectiveness of crash test video in increasing parental perceptions of injury severity and self-efficacy. Wilcoxon signed-rank test and Kolmogorov-Smirnov test were used to determine its effectiveness. The

second online survey was conducted in February 2014 to find out a specific period of time for a child not to resist staying in a car seat. Based on the results from these two surveys, we developed an animated video and evaluated its effectiveness.

**Results** One thousand eight people participated in the first survey. When asked the frequency the respondent's child uses a car seat, 69% said "all the time" and 5% said "rarely use". About 30% reported that they let their child out of a car seat when the child resisted staying. Over 30% said that there are some times when their child sat in a car seat without using safety belts. Finally, we found that crash test videos were effective in increasing parent's perceived severity of injury and self-efficacy. In the second survey, 1002 parents took the survey, and we found that the older the age of children were, the less their frequency of using a car seat. Especially, 25% of the respondents whose child were over 4 said that the frequency of car seat use was less than half.

**Conclusion** Based on the results from these surveys, we developed an animated video that showed you the consequences of car crash on a child when not using a car seat properly.

#### 695 REDUCE ROAD TRAFFIC INJURIES OF CHILDREN RIDING MOTORCYCLES

Jesus de la Fuente, Amalia Rolloque, Peavy Denisse Azas. Safe Kids Worldwide Philippines, Philippines

10.1136/injuryprev-2016-042156.695

**Background** Almost 5 million motorcycles are on our roads today. Over 400,000 more are added each year. With 23 Million children (14 years below) in elementary schools, many are transported by motorcycles, often without helmets and using unsafe practices. As of 2014, over 1/3 of fatal crashes involve motorcycles and there are no laws covering children riders.

**Methods** Safe Kids Worldwide Philippines, supported by Safe Kids Worldwide, developed a pilot Safe School Zone Project in 2014. First, the public elementary school was selected. The school chosen had the largest student population fronting the most dangerous highway in the country. Mobilisation and organisational activities proceeded covering the parents/teachers association, school principal/teacher-coordinators and the student leaders; followed with the village and the city government officials and finally the regional and national officials. Implemented a baseline study, then periodic project update meetings.

A parallel program for the enactment of the essential City Ordinance and National Legislation was undertaken.

To support the implementation of the law, the Safe Kids Helmet Program was launched in 3 cities of Metro Manila covering 17 schools.

**Results** With SKWP's active support, Quezon City enacted in April 2015 the landmark ordinance "Regulating the transport of children by means of a motorcycle". A parallel Senate bill was approved in May 2015, with the National law Republic Act No.10666 "Children's Safety on Motorcycles Act of 2015" signed by the President on July 21, 2015. SKWP then launched the Safe Kids Helmet program in the 3 cities of Metro Manila covering 17 schools.

**Conclusions** With the active collaboration of the key stakeholders and an aggressive advocacy, a seemingly unreachable goal of enacting a National law for Children Safety was achieved. An effective dissemination and implementation program is now essential for a successful Safe Kids Helmet Program.

696 COMMUNITY BASED STUDY ON FAMILY RELATED CONTRIBUTORY FACTORS FOR CHILDHOOD UNINTENTIONAL INJURIES IN AN URBAN SETTING OF SRI LANKA

DH.Punyadasa, D Samarakkody. Ministry of Health, Sri Lanka

10.1136/injuryprev-2016-042156.696

**Background** Childhood unintentional injuries are unexpected occurrences affecting a child, which lead to immeasurable grief and suffering to entire family. It is one of the leading causes of hospitalisation among children in Sri Lanka resulting death and disability. Children aged 1–4 years are at greater risk of unintentional injuries and majority of injuries among this age group occur in their family environment. Prevention of such injuries requires a clear understanding of their contributory factors.

**Methods** A community based descriptive cross sectional study was carried out among children aged 1–4 years residing in an urban setting of Sri Lanka, to assess the incidence and associated family related factors of unintentional injuries. 458 children were recruited using simple random sampling technique, giving a response rate of 91.6%. Parents of selected children completed an interviewer administered questionnaire (IAQ) that recorded the parent's recollection of their child having an unintentional injury needed medical attention, within three months prior to the interview. Socio demographic factors and family related factors of the study subjects were also collected by the IAQ. The data was analysed using SPSS 18.2 statistical package.

**Results** The incidence of unintentional injuries during the study period of three months was 28.1 per 100 children (95% CI = 19.46–36.74).

The factors that were significantly associated with the occurrence of unintentional injuries among children are low monthly income of the family ( $p = 0.045$ ), low social support to the mother of index child ( $p = 0.022$ ), non authoritative type of parenting of the mother of index child ( $p = 0.039$ ), cared by person other than mother during day time ( $p = 0.002$ ), frequent arguments between parents ( $p = 0.004$ ) and frequent alcohol consumption of father ( $p = 0.001$ ).

**Conclusions** Unintentional injuries are an important child health issue among children aged 1–4 years. Identification of family related contributory factors for unintentional injuries among this age group will enable policy makers to formulate effective child injury preventive interventions.

697 THE IMPORTANCE OF BIKE'S BRAKE ADJUSTMENT

<sup>1</sup>Kimiko Deguchi, <sup>2,3</sup>Koji Kitamura, <sup>2,3</sup>Yoshifumi Nishida, <sup>2,3</sup>Mikiko Oono, <sup>4,2,3</sup>Tatsuhiro Yamanaka. <sup>1</sup>Deguchi PaediatricClinic, Japan; <sup>2</sup>National Institute of Advanced Industrial Science and Technology, Japan; <sup>3</sup>Safe Kids Japan, Japan; <sup>4</sup>Ryokuen Children's Clinic, Japan

10.1136/injuryprev-2016-042156.697

**Background** Bicycle crashes are a major cause of injuries in childhood. According to injury data from the Bodygraphic Injury Surveillance System of the National Centre for Child Health and Development, bicycles are the number one product related to childhood injuries. Although it is important to keep one's brakes adjusted to prevent bicycle-related injuries, less attention has been paid to its importance compared to a helmet use. The purpose of this study is to measure the characteristics of children's hand growth and to reveal the relationship between a child's hand size and a reaction time to brake.

**Methods** Ten boys and 10 girls from each grade (120 students in total) participated in this study. To gather school children's anthropometric hand data, we measured the palm length, the middle finger length, and the length between the base of the thumb and the DIP of a middle finger. For the reaction time measurement, we prepared two bikes which attached the different size of width (standard or wide). Each participant rode both bikes and measured their reaction time. More specifically, the reaction time means the time from a participant notices the sign to stop to the time when the brake in the rear wheel begins to work. We considered the standard width as fit of one's hand size.

**Results** The length of both the palm and the middle finger increased 1.2 times in 6 years of elementary school. The growth rates were bigger among students in 4, 5, 6 grades compared to students in 1, 2, 3 grades. When the brake lever width does not fit one's hand, the reaction time to brake is delayed by 0.1 second. Moreover, we found the tendency that one required more reaction time to brake if one's hand size is small.

**Conclusions** We revealed the relationship between a child's hand size and a reaction time to brake and the importance of bike's brake adjustment. Based on the results from this study, we developed an animated video for bike safety. In future studies, we planned to implement an educational program to recommend a regular bike maintenance including a bike brake in addition to a helmet use.

698 DEALING WITH DIVERSITY: CHILD INJURY PREVENTION STRATEGIES FOR A CULTURALLY DIVERSE WESTERN AUSTRALIA

Katherine Celenza. Kidsafe Western Australia, Australia

10.1136/injuryprev-2016-042156.698

**Background** Western Australia cannot be a one size fits all when it comes to child injury prevention, the size of the state and diversity of each region makes it important to have targeted and appropriate campaigns and resources. Perth is one of the most remote cities and the extent of the Western Australian state means that accessing parents and carers that are remote and isolated takes an important role in ensuring that resources and programs are targeted and specific to each region.

**Description of problem** Addressing a shortage of culturally appropriate information available for parents and carers of children on the prevention of common childhood injuries was the purpose of this program. Ensuring that messaging and resources specifically targeted high risk regional Aboriginal communities, were culturally appropriate and regionally specific to address the issue of child injury prevention in Western Australia. Kidsafe WA worked with individual regional and remote Aboriginal communities to adapt current programs and resources to specifically address each region and the injury issues associated. Ensuring messaging was specific, culturally appropriate and addressed local issues was key to targeting a diverse area.

**Results** This paper will outline what was learned through the consultation process undertaken with community members within regional Aboriginal communities throughout the Pilbara, Kimberley and Goldfields Region. It will focus on the strengths and weaknesses of existing practices, how the program has been evaluated and what the next step is in addressing the issues raised for reducing child injuries.

**Conclusions** The progression of this project towards a suite of resources available across WA has reinforced the need for