

1A – Child – General, March 22, 2021

1A.001 FATAL ATTRACTION; SMALL POWERFUL MAGNETS ARE MAKING A RESURGENCERuth Barker*. *Queensland Injury Surveillance Unit, Brisbane, Australia*

10.1136/injuryprev-2021-safety.1

Context Small powerful magnets (SPMs) are used in many applications, from common household objects to industrial applications. Concerns over the frequency and severity of injuries related to SPMs prompted several product safety regulators around the world to ban the use of SMPs in certain products.

Process In late 2012, the ACCC banned the sale of SPMs supplied in multiples of two or more where the flux was greater than 50. This followed a similar ban in the United States. Though the Australian ban is still in place, the US ban was overturned in 2016.

Analysis The Australian ban was informed by collation of 22 cases of paediatric injury presenting to surgical services; 12 cases collected in 2012 alone. Following the implementation of the ban, there was a dramatic drop in the number of magnet related presentations. However, there has been a recent resurgence of products and injuries both in Australia and the US.

Outcomes The bans on sale of SMPs saw a dramatic reduction in cases. However, products currently on the market in Australia, though they should be under the 50 flux cut off, seem to still be implicated in causing injury. With fluid international consumer markets, it is also likely that Australian children are being exposed to higher flux products from overseas as well.

Learning Outcomes It is not clear whether current injuries are due to allowed Australian products or banned products sold in Australia or international products purchased online. We need reactivation of case reporting, that includes product details, to inform further regulatory moves.

1A.002 FACTORS ASSOCIATED WITH PARTICIPANT ATTRITION IN AN APP-BASED UNINTENTIONAL CHILD INJURY INTERVENTION

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Background High attrition rates threaten evaluation of the effectiveness of mobile health interventions. We explored the factors associated with attrition of study participants in an app-based clinical trial.

Methods This six-month cluster randomized control trial (RCT) implemented two app-based interventions: an unintentional child injury prevention app in the intervention group (Bao Hu San) and a nutrition app in the control group. The study included 2,920 caregivers of 3–6 year-old preschoolers in Changsha, China. Follow-up surveys were conducted 3 and 6 months after baseline, and data on app engagement was

collected electronically during the RCT. Associations within intervention and control groups were tested and quantified separately using adjusted odds ratio (aOR) based on logistic regression models.

Results The six-month attrition rate was 32.2%. Attrition rates differed significantly between control and intervention groups (35.7% vs. 28.9%, $p < 0.01$). For the intervention group, aORs of attrition risks were 1.43 for females; 1.59 and 1.41 for caregivers within 2 younger age groups; 1.67 for lower-educated individuals; and 2.80 for those who learned less during participation, respectively. For the control group, aORs of attrition risks were 1.69 for those with lower login frequency; 2.18 and 1.84 for those who learned least and less; and 2.51 for those with shorter learning duration.

Conclusions Demographic characteristics and app engagement were associated with attrition.

Learning Outcomes Researchers and practitioners should consider demographic factors and engagement when designing app-based interventions.

1A.003 AFFORDABILITY AND AVAILABILITY OF CHILD RESTRAINTS IN UNDER-SERVED POPULATIONS IN SOUTH AFRICA

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Background Child road traffic injuries are a major global public health problem and the issue is particularly burdensome in middle-income countries such as South Africa (SA) where injury death rates are 41 per 100 000 for under 5's and 24.5 per 100 000 for 5–14-year-olds. Despite their known effectiveness in reducing injuries amongst children, and a recently amended law, the rate of child restraint systems (CRS) usage remains low in SA and little is known about barriers and facilitating factors.

Methods We carried out observation studies and parent/carer surveys in 6 suburbs of Cape Town over three months to assess usage rates and explore knowledge and perceptions of parents towards CRS legislation, ownership and cost.

Results Only 7.8% of child passengers were observed to be properly restrained in a CRS with driver seatbelt use and single child occupancy being associated with higher child restraint use. 92% of survey respondents claimed to have knowledge of current child restraint legislation, however, only 32% of those parents/carers were able to correctly identify the age requirements and penalty. Reasons for not owning a child seat included high cost and the belief that seatbelts were a suitable alternative.

Conclusions These findings indicate the need for tighter legislation with an increased fine paired with enhanced enforcement of both adult seatbelt and child restraint use. The provision of low-cost/subsidised CRS or borrowing schemes and targeted social marketing through online fora, well baby clinics, early learning centres would be beneficial in increasing ownership and use of CRS.