

significantly improved through the development of data analysis. Narrative text mining is demanding also because of the multiplicity of languages spoken in the world.

880 DRIVE IN DRIVE OUT COAL MINERS: AN ACCIDENT WAITING TO HAPPEN

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10.1136/injuryprev-2016-042156.880

Background Australian mining sites and cover vast areas of the country are often located hundreds of kilometres from major centres. Thousands of mine workers reside in major population centres in coastal communities and regularly drive hundreds of kilometres to and from their workplaces at remote mine sites. This exposes many workers particularly on completion of their working week to the behaviours of high-risk fatigue and remote area driving.

Methods Data was collected using in-depth interviews ($n = 37$) and a written survey ($n = 461$) of employees from a Queensland coal mine. As well as collecting demographic and behaviour data the survey also contained constructs on the theory of planned behaviour, to examine the workers decisions about driving immediately after their rosters of 12 to 14 hrs. shifts over seven to ten day periods.

Results Workers drove an average of 473 km at the end of their rosters and almost one third drove over 600 km. There was an overwhelming desire to leave site as soon as possible after rosters. This desire frequently overrides concerns about high risks associated with fatigue and remote area driving. Facilitating factors include *routine, sick of being on site, to get the drive over with*, and because workers perceive they are *experienced drivers*. There were notable variations between factors that facilitate leaving site immediately. These variations and different control beliefs are predominately due to the type of shift (i.e. day or night).

Conclusions This research identified that many workers could be driving after being awake for up to 20 hours on the last day of shift. This level of wakefulness can impair driving that is equivalent to a BAC of 0.10%. The current study is understood to be the first to provide insight into the factors that facilitate and act as a barrier to mine workers driving immediately following their shift blocks. Interventions need to consider different shift types and the variations in intention and behaviour of worker commuting.

881 PROFILE OF NON-FATAL ROAD TRAFFIC CRASHES AMONG ADOLESCENTS IN GALLE, SRI LANKA: A CROSS-SECTIONAL SURVEY

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10.1136/injuryprev-2016-042156.881

Background Road traffic crashes (RTC) affect all age groups, but their impact is most striking on the young people. Sri Lanka is experiencing an epidemic of RTC. Information on the patterns of the crashes is essential to identify emerging issues and potential strategies, but few studies targeted on adolescents in Sri Lanka. The objective of this study is to describe the profile of non-fatal

road traffic crashes among adolescents aged 16-18 years old in Galle, Sri Lanka and to explore related factors.

Methods We conducted a cross-sectional survey in 16 high schools in Galle, Sri Lanka during May-July, 2014. Students aged between 16–18 years old were selected to participate in the pencil-paper survey and reported their experience of RTC in the past 6 months. Descriptive analysis and logistic regression were performed by using STATA. Signed informed consents were given by all participants and the study was approved by IRB at Duke University and Ruhuna University.

Results 1370 adolescents (681 males and 689 females) with the average age 17.7 completed the survey. 206 (15.1%) respondents self-reported being involved in crashes in the past 6 months as victimised pedestrians (20.5%), cyclists (21.0%) and motorcycle passengers (25.7%). Among these victims, 47.1% often wear helmets and 15.1% often play on the roads. 25.7% of these crashes happened on the way between home and school. 98 and 7 respondents suffered minor or severe injuries respectively leading to on average 1.23 days off from the school. After controlled school as cluster, the regression model showed that males (OR = 1.58, 95% CI [1.19, 2.10]) and safe-road behaviours (OR = 0.78, 95% CI [0.71, 0.87]) were significantly associated with the crashes.

Conclusions RTC is one of the emerging threats to adolescents in Sri Lanka. More effective intervention should be targeted on adolescents to promote their safe behaviours on the roads and prevent them from road traffic injuries and deaths.

882 IMPACT OF THREE WHEELER BAN POLICY ON ROAD TRAFFIC INJURIES IN KARACHI, PAKISTAN

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10.1136/injuryprev-2016-042156.882

Background (issue) Ban on two wheelers or three wheelers on many roads in several Asian cities have been implicated; however their impact on road traffic injuries (RTI) have not been studied much. In Karachi, Pakistan, for past few years there is steadily increase of three wheelers as a most frequent mode of transportation. From August 2015 Sindh High Court (SHC) has ordered the authorities to take immediate action against operation of these three-wheelers, commonly known as Qingqis, across the province.

Description of the problem Frequency of RTI secondary to three wheeler (Qingqis) is one the emerging problem in our part of world. It was implicated that three-wheelers led to increase in the RTI in Karachi. However, to date no work has been done to estimate the contribution of three-wheelers on RTI in Karachi. This is (an ongoing) descriptive cross sectional study (pre and post) design, that is before and after implementation of ban policy on Qingqis using hospital based record review.

Effects This is our preliminary results on the basis of record review done from Feb. to July, 2015 (before ban policy) and from Aug. to Oct, 2015 (after ban policy, ongoing). A total of ($n = 638$) RTI reported in the period of pre-ban policy. Total fatal accident were (34.9%) majority were due to motorbike versus (vs) cars (57%), motorbike vs motorbike (21%), motorbike Vs three wheelers (16%), car vs car (5%) while in 1% single vehicle involved. In non-fatal accident ($n = 415$) majority were involved Qingqis (71%). In the period of post-ban policy, we have analyse the data of 3 months from Aug. to Oct. A total of ($n = 261$) RTI were reported. Fatal accident were (31.8%) majority again from

bike vs car (69%), car vs car (8%) while in 6% motorbike vs motorbike or with Qingqis. In non-fatal accidents (n = 178) majority were due to car (82%).

Conclusion From the above results we can conclude that numbers of RTI has been decreasing in the post-ban policy period. These results indicate strong impact of three wheelers on RTI in our part of world which can be control by enforcing banning of such transport. In order to sustain these countermeasures over time, awareness about safety measures is the key element. Next, law enforcement agencies should be strengthen along with that government should provide alternate modes of transportation options for public in the form of mass transport.

883 RESULTS OF AN IN-DEPTH ANALYSIS OF HIGHWAY ROAD CRASHES IN KOLAR DISTRICT, KARNATAKA, INDIA

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10.1136/injuryprev-2016-042156.883

Background Highways account for a major share of travel and transport in India and many other LMICS. Road deaths and injuries are also significantly high on these highways due to different transport characteristics as compared to other roads. Despite this, the burden and pattern of highways crashes are not clearly known to develop sustainable interventions.

Methods The burden, pattern, characteristics and outcomes of highway road crashes was delineated using combined data from police and hospital sources. Using mixed method approaches, comprehensive resource mapping, facilities inventory, discussion with stake holders, environmental scanning and identifying characteristics of high risk crash locations was completed.

Results Road Traffic Injuries (RTIs) contributed for 39% of fatal and 34% of non-fatal injuries in the district. In 2014, 280 fatal road crashes were registered resulting in death of 336 persons. In the same period, 596 non fatal crashes were registered with police resulting in injuries among 1213 persons with a ratio of 1:4 between deaths and injuries. Information from just 2 major hospitals revealed that 8518 RTIs were registered in this period, indicating huge underreporting in police records. The 2 national highways and 5 state highways contributed for 37% and 25% of total road deaths, respectively, with 32% of nonfatal crashes occurring on both highways.. Males, 16–45 years, two wheeler riders and pedestrians were involved in high number of crashes. Collision patterns indicated a greater involvement of heavy vehicles like buses and trucks along with motor cars on highways. Nearly 43% died at the crash site and remaining deaths occurred on the way to hospital or in the hospital. Use of helmets- seat belts was extremely low and drink driving was recorded among 18.5% of hospitalised RTIs. Excessive speeding was a major cause of crashes as informed in focussed group discussions. Several high risk crash locations were identified and possible human, vehicle and road related factors delineated. Injuries to head and face along with extremity injuries were most frequent and both prehospital and in-hospital care had several limitations and deficiencies.

Conclusions Safety of all road users and especially vulnerable road users should be given greater importance on highways with implementation of well proven countermeasures along the five pillars of road safety in India and other LMICs.

884 SLOW-MOVING AGRICULTURAL VEHICLES IN TRAFFIC

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10.1136/injuryprev-2016-042156.884

Background Along with structural changes in agriculture, increasing area of arable land and the number of field parcels on a farm are exceedingly raising the movement of agricultural equipment on public roads. At the same time also the sizes of agricultural vehicles are growing. Traffic accidents involved agricultural vehicles often lead to serious injuries or even death.

Methods In order to find out the present situation in traffic accidents and to improve the traffic safety with slow-moving agricultural vehicles, national statistical information of road accidents 2004–2013 and of occupational accidents in agriculture 2004–2014 were gathered. In addition, an enquiry of road accidents, near accidents and safety measures (good practices) was sent to large farms. In order to find out how much time is spend and how many kilometres are driven on public roads by a farm tractor on a large farm, two tractors on two farms were followed by AgriSmart GPS system during a growing season.

Results For results about 6 300 roads accidents are analysed. Most often the agricultural party was a tractor and the other party a passenger car, as reported also in previous studies. The speed limit of the road was at least 80 km/h in more than half of the accidents (54%). Turning accidents were the most common type of these accidents. More than 20% of respondents of the enquiry had had at least one road accidents with slow-moving agricultural vehicles during the last 10 years. The most serious accidents occurred on main roads where variations in vehicle velocities are the largest. The farms have put into practice several measures - most often technical like extra lights, flashing lights and wide private crossroads – to improve traffic safety. According to the first half of the follow-up period of the two tractors, the tractors were used on roads about 20% of the time.

Conclusions Wide variations in vehicle velocities and poor ability to recognise slow-moving agricultural vehicles are crucial risk factors in agricultural traffic. Various measures are needed to reduce traffic accidents involved slow-moving agricultural vehicles. These should be focused on agricultural machinery, roads, farmers and other road users. This on-going study is financed by the Farmers' Social Insurance Institution and the Finnish Research Fund of Agricultural Machinery.

885 SAFE SCHOOLS PROJECT, SOUTH AFRICA

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10.1136/injuryprev-2016-042156.885

Background The World health Organisation indicates that child pedestrian injuries are highest in African countries with a continental mortality rate that is twice the global world (WHO 2011). In South Africa it is noted that the majority of children walk to and from school, placing them at particular risk to road traffic crashes resulting in injury, disability or death (Stats SA 2013) Child pedestrians are particular vulnerable to road crashes due to their physical and cognitive limitations.

Methods The Safe School project aimed to reduce child pedestrian injuries and deaths in South Africa by introducing the iRAP star rating concept, which provides tools and training to help countries make roads safe by inspecting high-risk roads and