

developed and used to train the instructors with satisfied outcomes.

679 ECONOMIC IMPACT AND CARE-SEEKING PATTERNS OF INJURIES IN BANGLADESH

¹Y Natalia Alfonso, ¹David Bishai, ²Ola Kunle Alonge, ³Emdadul Hoque. ¹Johns Hopkins University Bloomberg School of Public Health, Department of Family Population and Reproductive Health. Baltimore MD USA, ²Johns Hopkins University Bloomberg School of Public Health, Department of International Health. Baltimore MD USA, ³International Centre for Diarrhoeal Disease Research, Bangladesh

10.1136/injuryprev-2016-042156.679

This study aims to provide an understanding of the economic hardship of individuals with unintentional injuries and economic recovery options in rural Bangladesh by assessing the variation in mortality and morbidity due to injuries and estimating the economic burden of injuries by type of injury.

Data were obtained from an annual demographic and injury surveillance system conducted in 7 sub-districts in rural Bangladesh during fiscal year 2014–2015. We tabulated injury prevalence and care-seeking patterns by injury type, age group and socioeconomic status (SES) and applied Chi square tests. A two part model of spending applied a generalised linear model to estimate the probability of any spending and amount of out-of-pocket costs per injury type. Lastly, a Markov model was developed to estimate the probability and cost for each type of injury.

There were 1,163,290 individuals and 119,669 self-reported injuries. The most common injuries were from falls (38%), cuts (22%), blunt objects (10%), and transport (9%). Drownings and violence injuries were more common among low SES, while electrocution were more common among high SES. Most injuries (88%) sought treatment, 81% used village doctors, 3% were hospitalised for a median of 5 days, and 25% of the hospitalised had surgery. Of those treated, 4% reported no improvement in health. The mean and median cost for treated injuries, in 2015 BDT, was \$1,302 and \$250, respectively. Most treatments incurred expenditures on medicines (95% median \$250), 31% on transport cost (median \$100) and 15% on consultation fees (median \$220). The most expensive injury treatments were other (\$6,125), attempted suicide (\$2,000), violence (\$680), and unintentional poisoning (\$600). Other results will be shown later.

Data highlights injuries common among lowest or highest SES, treatment outcome patterns, and most common and most expensive health care services and injury types. This new evidence can improve understanding on health care use, the economic hardship and recovery options of individuals with injuries in rural Bangladesh.

Posters Tuesday 20.9.20167

Brain Injuries

Post Tue 2.7

680 MULTI-FUNCTIONAL DRUG APPROACH FOR THE TREATMENT OF BRAIN INJURY

¹Adrian Harel, ²Mårten Kvist. ¹Medicortex Finland Oy, Finland; ²University of Turku, Finland

10.1136/injuryprev-2016-042156.680

Background Traumatic brain injury (TBI) is one of the main causes of mortality among military personnel, children, young adults and athletes. Medicortex Finland has adopted a novel approach to attenuate secondary damages related to traumatic brain injury and stroke. TBI is manifested by early events and delayed secondary alterations. The latter include: mitochondrial dysfunction, lipid degradation and peroxidation and blood-brain barrier (BBB) disruption. This is followed by raised intracellular calcium influx and activation of proteases, resulting in axonal swelling, disconnection and degeneration. Pro-inflammatory factors are produced and secreted by local and infiltrated immune system cells, promoting the development of the inflammatory process. This series of events results in various neurological deficits. Since the degenerative process is mediated by multiple biological reactions, agents that target a single pathway are ineffective.

Method Medicortex presents a novel family of new chemical entities that cross the BBB, each possessing a penetrating head with a chemical spacer and two or more of the following properties: binding of free metal ions, anti-oxidation, anti-inflammation, and/or anti-bacterial. The lead compounds will be selected according to their solubility, stability and toxicity. In vitro and in vivo studies are conducted in order to explore the efficacy of the molecules as neuroprotective agents under different insults and to attenuate neural damage, utilising animal models of cortical impact brain injury.

Results The first compound, TBI-466, was tested by repeated injection at different concentrations and was found to be safe.

Conclusions Taken together, Medicortex's multi-functional drug agents will target biochemical pathways occurring at different time points post-injury, thereby attenuating and even preventing secondary TBI-associated neurological dysfunction and neuronal cell death.

681 EPIDEMIOLOGY OF TRAUMATIC BRAIN INJURIES BASED ON HOSPITAL REPORTS IN METROPOLITAN FRANCE: WHICH ICD10 CODES SHOULD BE SELECTED?

¹Bertrand Thélot, ¹Anne Pasquereau, ¹Gaëlle Pedrono, ¹Linda Lasbeur, ²Claire Jourdan, ³Hippolyte Kouadio, ³Emmanuel Rusch. ¹Santé Publique France, Saint-Maurice, France; ²University Hospital, Montpellier, France; ³University Hospital, Tours, France

10.1136/injuryprev-2016-042156.681

Background Traumatic brain injuries (TBI) result most often from injuries which could have been avoided through preventive measures. They have very costly human and financial consequences. To contribute to the epidemiological surveillance of TBI, the objective of this project was to analyse hospitalizations for TBI in France.

Methods Each hospitalisation results in a report containing information on the diagnosis, the treatment, the health condition upon discharge, etc. This database, called the Programme for the Medicalization of Information Systems (PMSI), is comprehensive. The main hospital diagnosis (MD) and associated diagnosis (AD) are coded in the International Classification of Diseases, 10th Revision (ICD10). The selections were made from different ICD10 code lists used in the literature: "Intracranial injury" (S06 codes) always selected for TBI analysis; "Fracture of vault of skull, etc." (S02.0, S02.1, S02.3, S07.1) often retained (OR); "Fracture of skull and facial bones, etc." (S02.7, S02.8, S02.9, S07.0, S07.8, S07.9, S09.7, S09.8, S09.9) sometimes retained (SR). The selection must be made on all diagnoses (MD and AD), since the TBI can be coded as an AD in case of multiple injuries.