

Trauma/Critical Care

Transforming Violent Cities to Safe Communities - The Evidence-based Approach

M Williams

Objective: Suicide and gun violence significantly threatens disadvantaged communities. Structural violence occurs when society's institutions or informal governance apparatus prevents people from meeting their basic needs. Structural violence has a larger community impact. Both forms of violence are reviewed.

Methods: A review of the current literature describing both the impact of gun violence and structural violence on disadvantaged communities. Development of an evidence-based framework to mitigate each of these institutional influences on communities. Discussion centred around historical context and feasibility of this framework in contemporary times.

Results: Gun violence accounts for 35 000 deaths and 81 000 injuries from firearms per year. Two-thirds of these deaths are due to suicide, while only 2% of these deaths will result from mass shootings and 13% will be gang-related. Structural violence impacts far more individuals and the death toll is unmeasured. Examples of this structural violence include: law enforcement abuses, food insecurity, income inequality and exploitation by educational and religious institutions. Specifically, 14 police departments in the United States of America have signed consent decrees after violations of civil rights occurred in communities and neighbourhoods where disadvantaged people reside correlate heavily with food desert mapping, large powerful institutions are still charged and found guilty of sexual exploitation of vulnerable populations, and income inequality is still found in disadvantage communities and correlates with violent crimes.

Conclusions: Structural violence is far more pervasive and impactful than gun violence in disadvantaged communities. Specific measurement of structural violence influences on communities is essential to creating violent free communities.

Aetiology Source and Outcome of Paediatric Intensive Care Unit Admissions in The Bahamas: A Retrospective Chart Review

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Objectives: To characterize admission by aetiology, source and mortality and explore associations between admission related factors and mortality of children ages < 17 years admitted to the intensive care unit (ICU) at the Princess Margaret Hospital (PMH), Nassau, The Bahamas, for the period January 2012 to December 2016.

Methods: A retrospective chart review was conducted on paediatric admissions to ICU. Patient demographics, medical conditions, reason for admissions and clinical outcomes were extracted from the medical records and quantitatively analysed, (IBM SPSS v24).

Results: There were 229 participants admitted: Males accounted for 136 (58.4%) with the majority being Bahamian 164 (78.8%). The median age was four years and the modal age one-year. Co-morbidities included asthma 22 (10.3%), diabetes 18 (7.7%), congenital cardiac lesions 16 (7.4%) and sickle cell disease 14 (7.1%). The most common reason for admission was respiratory distress. One hundred and eleven (52.9%) patients were admitted from the Accident and Emergency (A&E) Department, 56 (26.7%) from the wards, 25 (11.9%) from operating theatres, 12 (5.7%) from a neighbouring private medical centre, three (1.4%) from a family Island and two (1.0%) from the Turks and Caicos Island. The median length of stay was three days with motor vehicle accident/polytrauma being the strongest predictor for length of stay ($\beta = 0.308, p < 0.001$). There was a 10.2% mortality proportion for participants admitted from the wards, 8.7% for those admitted postoperatively and 1.9% for those admitted from A&E.

Conclusion: Participants admitted from the wards had the highest mortality proportion. This was thought to be due to delayed transfer to ICU.

Timeliness of Utilization of Reperfusion Therapy in Acute Ischaemic Stroke Patients at Princess Margaret Hospital, Nassau, The Bahamas

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Objectives: To ascertain the delaying factors of thrombolytic therapy in patients with a diagnosis of acute ischaemic stroke at the Princess Margaret Hospital (PMH).

Methods: A prospective observational study was conducted over the eight-month period January to August 2017. Adult patients diagnosed clinically or radiographically with an acute ischaemic stroke were eligible. Quantitative data on medio-socio-demographic and clinical features were collected using a face-to-face quantitative survey instrument, once informed participant consent was obtained. (IBM SPSS statistical software facilitated data analysis.)

Results: Of 189 eligible, seven patients presented twice during the study period. Eighty-six (47.3%) were males and 96 (52.7%) females and their median age was 60–69 years old. Pre-hospital delay was the major factor resulting in a late arrival, as 105 (56%) patients arrived at hospital beyond 4.5 hours of symptom onset. Median pre-hospital delay was 6.17 hours and median in-hospital delay was 3.95 hours. Overall, six (3.2%) participants were evaluated by a physician within 10 minutes of arrival, four (2.1%) completed computed tomography (CT) scan within 25 minutes and none received thrombolytic therapy within the recommended 60 minutes. Approximately, 97.9% per cent of patients with acute ischaemic stroke were not treated with intravenous thrombolysis.

Conclusion: Pre-hospital and in-hospital delays were major factors resulting in a low rate of thrombolysis. Interventions such as public education programmes, pre-hospital triage by Emergency Medical Services (EMS), pre-notification of the receiving hospital by EMS, urgent neuroimaging protocols and rapid coordination of an acute stroke team of physicians can possibly increase thrombolysis utilization and subsequently decrease stroke disability.

Trauma Whipple: A Call Option in Complex Pancreaticoduodenal Injuries

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Objectives: Major traumatic disruption of the pancreaticoduodenal complex is a very rare event. Successful emergency trauma pancreaticoduodenectomy for such injuries is an even more infrequent occurrence. This report describes a single centre experience with this life-saving procedure for complex pancreatic injury and describes its place in the trauma surgeon's armamentarium.

Methods: We performed a retrospective review of all trauma patients who presented with complex duodenal and head of pancreas injury that were managed with pancreaticoduodenectomy. We reviewed demographics, mechanism

of injury, grading of injury, approach to management, morbidity and mortality.

Results: There were three patients all males with ages ranging from 24–35 years old. Two had penetrating trauma gunshot wound (GSW) and one had blunt trauma. They all presented in shock and had Grade IV injury to the duodenum and pancreatic head. One patient also had a complex laceration of the portal vein. All patients were managed with damage control techniques and delayed reconstruction. Drains were used to initially control biliary and pancreatic secretions. Pancreaticogastrostomy was the preferred method for managing the pancreatic remnant. Two patients survived and one died. The one mortality involved associated major vascular injury. One patient returned with acute pancreatitis after a year.

Conclusions: Trauma Whipple for complex pancreaticoduodenal injuries is a practical and reasonable option for the well-selected patient as demonstrated by this report. Successful pancreaticoduodenectomy is facilitated by early controlled external tube drainage of the bile and pancreatic ducts and delayed reconstruction once bleeding and soilage are controlled.

Weight bias and Stigma towards Obese Patients by Physicians and Medical Students in The Bahamas

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Objective: To assess the prevalence of weight bias and stigma towards obese patients by physicians and medical students in The Bahamas in the context of contributing personal and professional factors.

Methods: A cross-sectional study with convenience sampling of licensed physicians and local full-time medical students completed a self-administered questionnaire analysed quantitatively.

Results: Of the 879 persons (779 physicians and 100 medical students), 159 physicians and 62 medical students responded. Physicians' average body mass index (BMI) and age were 28.6 kg/m² and 36.4 years, and 66% were female. Medical students' average BMI and age were 26.4kg/m² and 26 years, and 77.4% were female. Physical inactivity, overeating and quality of food were rated as extremely important causes of obesity (60% of physicians; 96% of medical students). Ninety-eight per cent of the physicians felt that obese patients overeat and like food. Ninety-five per cent of medical students felt that overweight/obese patients are self-indulgent, like food and overeat; 68.1–89% of the physicians viewed obese patients as unattractive, slow, having no endurance, shapeless and insecure, while 76.7–83% of the medical students felt that obese patients were unattractive and slow. Obesity treatment was rated equally effective to therapies for nine of 10 chronic conditions. Regarding physicians, 50.6% agreed that a 10% bodyweight reduction

reduces obesity complications. Pertaining to physicians, 56.9% would spend more time working on weight management issues if compensated appropriately.

Conclusion: The physicians and medical students in this study viewed obesity as largely a behavioural problem, thus contributing to stigmatizing attitudes, negative stereotypes and weight-loss expectations.

Promoting Sexual Health and Disease Prevention: Embracing Advances in Behavioural and Therapeutic Approaches towards Ending HIV and Human Papillomavirus Related Diseases in The Bahamas

C George

Objectives: To determine knowledge, attitudes and practices in various Bahamian groups as they relate to sexual health and, in particular, human immunodeficiency virus (HIV) and human papillomavirus (HPV) infection prevention.

Methods: Survey questionnaires focussing on sexual health were administered to representative groups including healthcare providers, high school students, college students, police and defence force personnel and members of the

general public. In addition, focus groups were conducted involving adults from the general public, including Bahamians and Haitians. Survey content included male circumcision (MC), HPV knowledge, HPV vaccine knowledge, sexual practices, HIV knowledge and practices.

Results: The study identified strengths and barriers to sexual health in The Bahamas. With regards to MC, over 60% of physicians would recommend MC with females being more likely than males to recommend MC. Physicians expressed a general need for further training in MC. The prevalence of MC was low in the general population although willingness to be circumcised improved on learning about the benefits of MC. With regards to young men and women, more young women would recommend MC. For young men, their willingness to be circumcised also improved on knowing the benefits of MC. Pertaining to HPV, knowledge among high school students was generally poor and there were misunderstandings in the role of the HPV vaccine and continuation of Pap smear testing.

Conclusions: There are opportunities to reduce the burden of HIV and HPV in The Bahamas using appropriate knowledge, professional support and newer biomedical technologies that specifically target The Bahamian population.