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DEVELOPMENT OF A NATIONAL EMS POLICY FOR KENYA: OPPORTUNITIES FOR ACTION

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Background Emergency Medical Services (EMS) are a community's gateway to acute and emergency medical care for members of the public facing time-sensitive, critical illness and injury.¹ A functional EMS is an effective, frontline intervention to reduce the disproportionately high morbidity and mortality in Low- and-Middle Income Countries (LMICs).¹⁻³ The World Health Organisation and the African Federation for Emergency Medicine have promoted the formation of locally appropriate EMS systems in LMICs.¹⁻⁴

Description of the problem Under article 43 of the Constitution of Kenya "a person shall not be denied emergency medical treatment." However, recent events including floods and the Westgate terrorism attack have revealed a low-functioning system for care of the injured in Kenya. There is extensive variability in the level of care provided at the pre-hospital setting due to the absence of national standards in training of personnel, available equipment and infrastructure. Furthermore, emergency rooms in the public health facilities are often poorly resourced to deliver definitive emergency care.

Results In 2012 and 2013, Johns Hopkins International Injury Research Unit, CDC-Kenya and the Ministry of Health brought together local EMS stakeholders to form a consortium. Members were tasked with creating a locally appropriate EMS Policy. In 2015, a comprehensive policy that recognises pre-hospital care as a component of the healthcare system was developed. It establishes a regulatory body for EMS, defines minimum training and equipment standards and mandates data reporting for quality improvement.

Conclusions The development of a locally appropriate EMS policy requires consensus and extensive stakeholder engagement. The implementation of this policy will provide the opportunity for definitive emergency care as stipulated in the national constitution and serve as a model for EMS development in LMICs.

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IN-HOSPITAL MORTALITY BASED ON THE MODE OF EMS TRANSPORTATION IN HIGH-INCOME DEVELOPING MIDDLE EASTERN COUNTRY

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Background Helicopter emergency medical services (HEMS) have become a standard element of advanced pre-hospital care

system. Positive outcomes in HEMS transportation were evident in different settings and certain types of patients. The present study assessed presentations and outcomes in trauma patients transported by HEMS and ground emergency medical services (GEMS) in Qatar.

Methods A retrospective review of trauma registry data at Hamad Trauma Centre (HTC) was conducted for trauma patients transported by GEMS and HEMS in the duration from 2011 to 2013. Patients were classified into two groups based on the mode of transportation (HEMS vs GEMS). Injury severity score (ISS) was defined as severe/profound trauma (>15) and mild/moderate trauma (≤ 15). Mortality was defined as brought in dead (BID), within the first day, within the first week and more than 1 week..

Results A total of 4596 patients with traumatic injuries were included (7% HEMS). When compared with GEMS, the mean ISS, Head AIS and scene GCS were greater in HEMS ($p = 0.001$). Nearly 12% of ISS > 15 and 5% of ISS ≤ 15 were transported by HEMS. The main mechanism of injury was motor vehicle crash (MVC) (37%) followed by fall (25%) and pedestrians (14%). MVC victims were more likely to be transported by HEMS whereas fall and pedestrians victims were frequently transported by GEMS ($p < 0.05$). On-scene rate of intubation was higher in HEMS irrespective of ISS score ($p = 0.001$). Overall mortality, in-hospital deaths and BID was 10.2%, 7.5% and 3%; respectively. The mortality was 2.5-fold higher in victims transported by HEMS compared with GEMS (10% vs 4%, $p = 0.001$). Mortality within the first day and more than one week were higher with HEMS, however, it was greater within the first week in GEMS. Age and mode of transportation - adjusted predictors of mortality were ISS and scene GCS.

Conclusions MVCs are the main mechanism of injury in Qatar. Polytrauma and scene GCS play important prognostic role regardless the mode of transportation. These findings indicate the need of more effective preventive measure on the road

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THE EFFECT OF PREHOSPITAL INTRAVENOUS FLUID ON SURVIVAL OF TRAUMA PATIENTS IN KHON KAEN HOSPITAL

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Background The administration of intravenous fluid (IV fluid) during prehospital setting for trauma patients is the traditional procedure in emergency medical service (EMS) system. We believed that intravenous fluid would maintain intravascular volume and organ perfusion. Conversely, the prehospital IV fluid access procedure increased the on scene time and missed the concept scoop and run for definite treatment and in one theory IV fluid was cause of rebleeding from elevation of blood pressure. This study aimed to identify the effect of prehospital IV fluid administration on survival to discharge of trauma patients in Khon Kaen hospital.

Methods This was retrospective cohort study. Trauma patients who arrived by EMS system and admitted in Khon Kaen hospital during 1st January 2014-31th December 2014 were enrolled. The effect of prehospital IV fluid and other important variables on survival to discharge were analysed by multiple logistic regression.

Results There were 2,610 patients who arrived by EMS system and all of them were admitted. 4.4% of patients received IV fluid from prehospital setting. Survival was higher in patients who not

received prehospital IV fluid (98.2% vs. 81.9%). From univariate analysis, patients receiving prehospital IV fluid were less likely to survive (OR 0.08; 95% CI: 0.05–0.14 p-value < 0.00001) after adjusted for other variables (age, sex, mechanism of injury, Glasgow Coma Scale, initial blood pressure and Injury Severity Score), prehospital IV fluid did not decrease survival (OR 0.85; 95% CI: 0.35–2.07 p-value=0.735). However subgroup analysis in patients with hypotension at scene, prehospital IV fluid significantly decreased survival to discharge (OR 0.16; 95% CI: 0.04–0.76 p-value = 0.021).

Conclusions Prehospital IV fluid did not increase survival in trauma victims and it may be harmful in hypotensive patients. The routine use of prehospital IV fluid administration for all trauma patients should be considered.

788 COMPLEX THERAPY FOR TREATMENT OF OSTEOPOROSIS

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Background Osteoporosis is system disease of skeletal system with loosening of bone tissue mass and microarchitecture disorders, which follow to bone's fragility and high risk of fractures.

Statistical data make it possible to realise the level problem on Azerbaijan Republic. Population group of persons older than 50 y.o. increase, it was 19% of whole population in 2010, it consist 1700 000.

Specialist of Obstetrics and Gynaecology Institute of Azerbaijan Republic established and used methodic with ultrasound densitometry, which was helpful for primary risk group including decreasing of mineral density, disorders of bone architectonic and strength of skeletal bones.

Treatment methodic established by Obstetrics and Gynaecology Institute specialists included physical exercises and medical therapy. Physical exercises were prepared for all age groups. There was difference in intensity of exercises according to patient's age. Main task of exercises was strengthening of vertebral column.

Methods There was used non invasive ultrasound densitometer SUNLIGHT OMNISENSE 7000 included 3 probes for examination of different bones (radius, tibia and phalanx of thumb) for diagnostic, screening and monitoring of osteopenia and osteoporosis. We have observed by densitometry 722 female patients (middle age 56, 4 ± 1, 0 y.o.) trying to detect osteoporosis in postmenopausal syndrome stage on period from January 2009 till October 2014. There were 382 (52, 9%) cases with osteoporosis and 211 (29, 2%) cases with osteopenia. There weren't pathological process in 129 (17, 9%) cases.

Densitometry examination of patients was interpreted by special computer program. Computer program estimated patient's status as osteoporosis, osteopenia or normal; also computer program predicted percentage possibility of fracture. Re-examinations were arranged after 6 months and 1 year.

Results Patients were treated by Obstetrics and Gynaecology Institute approved method. There was used complex treatment method included medical therapy and physical exercises. Physical activity was indicated as important part of treatment. Physical exercises course continued 3 months. All patients didn't interrupt exercises after finish of treatment. Medical therapy includes hormonal therapy, Ca and bisphosphonates. Successful results of treatment demonstrated efficiency of treatment method and

importance of physical activity in patients with osteoporosis and osteopenia.

Densitometry gave possibility to make monitoring during treatment period.

Conclusions Primary diagnostic of osteoporosis and osteopenia gave possibility to detect risk group and start complex treatment and dynamic monitoring. As result it was possible decrease clinical manifestation of osteoporosis and osteopenia to minimal level in limited period.

789 POST TRAUMATIC STRESS DISORDERS AND QUALITY OF LIFE AMONG TRAFFIC CRASH SURVIVORS IN MALAYSIA

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Background Traffic crashes (MVC) injure many people and affects victims' everyday lives and productivity. Traumatic experiences are common, but only a minority of survivors develops chronic emotional problems such as post-traumatic stress disorder (PTSD). The objective of this cross sectional study is to determine the quality of life (QoL) and PTSD among traffic crash survivors.

Methods A total of 108 traffic crash survivors from the Orthopaedic Clinic of two leading public hospitals in Selangor, Malaysia (Serdang Hospital and Tengku Ampuan Rahimah Hospital) participated. Each respondent was interviewed face to face using WHOQOL-BREF questionnaire to measure QoL and Impact Event Scale (IES) to measure the level of PTSD.

Results The results found that 82.4% of the respondents developed PTSD and 56.5% of the respondents had poor QoL. There is significant difference exists in social relationship domain with the level of PTSD (p < 0.05). There is also a significant difference between overall QoL score and the level of PTSD among the respondents (p < 0.05). The result also showed a significant difference between age (p = 0.044), race (p = 0.013) and educational level (p = 0.002) with the mean score of QoL. However, there was no significant association between age, gender, marital status and educational level with the level of PTSD. QoL score was found to be significantly correlated with PTSD (p = 0.030).

Conclusions In conclusion, traffic crash involvement is a leading cause to PTSD. Decrements in QoL have been associated with both chronic pain and also PTSD. Hence, greater attentions need to be given for those traffic crash survivors who developed PTSD symptoms.

790 A RANDOMISED CONTROL TRIAL STUDY ON BIOPSYCHOSOCIAL COACHING INTERVENTION

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Background Physical injury is one of the outcomes due to road traffic accidents. These survivors, who are left with temporary or permanent disability, may result in continuous restriction on their physical functioning which gives impact to their health related quality of life (HRQOL). The aim of this study was to evaluate the impact of a biopsychosocial intervention on HRQOL among road traffic accident survivors.

Methods A randomised control trial study design was applied among 200 respondents who were equally divided into the intervention and control group. All respondents in both groups were