

Background: There are few published papers describing the epidemiology of facial fractures in South Africa, and there is only one published study in pediatric patients. An understanding of the etiologies and distribution of facial fractures in specific population will allow for appropriate preventions and clinical managements. The aim of the present study was to retrospectively determine the distribution of facial fractures in children who presented to a pediatric trauma unit.

Methods: This study retrospectively reviewed all medical records in a major metropolitan pediatric hospital in Cape Town, South Africa from September 2006 through May 2014. Inclusion criteria were children aged under the age of 13 with facial fractures. Fractures were assessed through head computed tomography (CT) scans. Patient's age, sex, cause of injury, general condition, existence of concomitant injuries, location of fractures, type of interventions and length of stay were recorded and analyzed. This study was approved by the Institutional Review Board of University of California, Los Angeles and the Hospital Research Review Committee of Red Cross War Memorial Children's Hospital.

Findings: Fifty-three male and 37 female patients were included in the study. Motor vehicle collisions (MVC) were the most common cause of facial fractures (56.3%). One-hundred-thirty facial fractures were presented on CT scans. The most common fractures in this study were mandible (43.1%). Comparing unrestrained MVC (UMVC) patients with those of other etiologies (OE), there was an increase in the average number of fractures (OE: 1.1, UMVC:1.9; $P < 0.0001$), the average length of stay (OE: 4 days, UMVC: 9 days; $P=0.002$), and the probabilities of sustaining concomitant injuries (OE: 31.0%, UMVC: 68.8%) and requiring an operation (OE: 42.3%, UMVC: 81.3%).

Interpretation: The demographic profile of the cohort was consistent with other reports that more male than female children sustain facial fractures and that the mandible is the most common site in children. This study also establishes motor vehicle accidents as the most common etiology of facial fractures in South Africa. Lastly, it demonstrates an increase in the complexity of facial injuries in unrestrained MVAs, suggesting the need for public awareness campaigns to install restraint devices in automobiles in South Africa.

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Abstract #: 01SEDH035

Evaluating intimate partner violence and response system in leon, Nicaragua: Perspectives from survivors and stakeholders

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Background: Five out of 10 married women in Nicaragua have experienced physical or sexual abuse at some point during their marriage (Ellsberg et al., 1999). Surveys collected by 360 women in the department of León indicate that 52% of these women have experienced physical violence by a current or former spouse (Ellsberg et al. 2001). Despite passing Law 779 addressing violence against women in June 2012, access to services for women experiencing violence is limited. To continue addressing intimate partner violence (IPV) in the department of León, researchers recruited residents throughout León to participate in a study assessing community needs in relation to IPV.

Methods: A qualitative study consisting of 9 focus groups was held: 3 stakeholder groups, 3 groups of women living in urban areas, and 3 groups of women living in rural areas. Each focus group contained 4-7

participants, totalling 50 participants. There were 15 stakeholders, 20 rural women, and 15 urban participants. Focus groups were moderated by 2 researchers using semi-structured guides and lasted 60-100 minutes each. Various stakeholder participants were identified by the research team while other participants were recruited through snowball sampling, where researchers asked stakeholders to identify other potential participants for stakeholder and women groups. Stakeholders could be male or female; had to be 18-years of age or older; and must be working directly with IPV-related issues. While stakeholder focus groups were conducted in the city of León, the participants represented both urban and rural communities. The remaining 6 focus groups were conducted with adult women participants who are residents of León, and who experienced IPV personally or who knew someone who had experienced IPV. Female-only groups were a priority as the majority of victims of IPV are women, and because it is recognized that gender inequality is a risk factor of IPV (WHO, 2005; Ellsberg, 2006). Urban groups were facilitated within secure areas in the city of Leon, while rural groups took place in enclosed common spaces in the individual communities. Focus groups were transcribed and coded for major themes using ATLAS Ti software.

Findings: Qualitative analyses revealed two overarching themes: access to appropriate services and adequate human resources to address intimate partner violence. The study was approved by the ethics board committee at UNAN and UCLA; all participants gave verbal consent to participate.

Interpretation: Limitations of the study were that participants self-selected to participate in the study. Overall, stakeholders, working in both private and public sectors, cited lack of properly trained human resources to respond to IPV. Family and peer support were important for women seeking help. Urban and rural focus groups desired more mental health and safe community areas as ways of helping women experiencing IPV.

Funding: Minimal funding was gathered through an online campaign.

Abstract #: 01SEDH036

Determinants of neonatal mortality in Suriname: preliminary findings from a perinatal and infant mortality survey

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Background: Neonatal deaths are considered a good indicator of newborn health and care. Neonatal mortality in Suriname is considered to be high in comparison to more developed countries and other countries in the region. Prematuritas, perinatal asphyxia, sepsis/infection and congenital malformations are considered major determinants of neonatal mortality. Insight in these determinants can lead to the development and implementation of preventive strategies in order to reduce mortality.

Methods: All newborns in the multi-ethnic society of Suriname between September 2010 and December 2012 were included in the Perinatal and Infant Mortality Survey in Suriname (POPZIS). Preliminary data were analyzed (5371 live births). Crude associations between potential determinants and neonatal mortality were tested using the χ^2 -test. Logistic regression models were computed to assess independent determinants of neonatal deaths and were expressed as odds ratios (OR) with 95% confidence intervals [95% CI].

Findings: Sixty-nine infants died during the neonatal period (neonatal mortality rate 12.9‰). These infants were more often boys

(60.6 vs. 49.6%), multiples (6.1 vs. 2.1%), prematurely born (67.7 vs. 11.7%), weighed less than 2500 grams (71.2 vs. 12.0%), were born in a breech position (26.1 vs. 3.5%), and were delivered by caesarean section (26.5 vs. 18.7%). Their mothers were more often younger than 20 years and 35 years and older [OR=1.8], more often had a Maroon, Creole or Indigenous ethnicity [OR's respectively 1.3, 2.1, 2.5], and were less often Hindustani [OR=0.8] or Javanese [OR=0.3]. Low birth weight, premature birth and a breech position were independently associated with a 6.6, 4.9 and 3.8 times increased risk of neonatal death, respectively. In addition, most babies (74%) died in the early neonatal period and within 24 hours after birth (34%), due to respiratory insufficiency as a result of infant respiratory distress syndrome (IRDS), which accounted for 53% of deaths, followed by sepsis/infection (24%) and congenital malformations (19%).

Interpretation: Neonatal mortality in Suriname is high compared with more developed countries (5‰) but is comparable with other countries in the Caribbean region (19‰). Early neonatal death accounts for a large proportion of neonatal mortality in the multi-ethnic society of Suriname. Two-thirds of these infants are born prematurely and the timing of death is often in the first 24 hours after birth. More than half of the newborns died as a result of respiratory insufficiency. It is imperative that further measures are taken to reduce neonatal mortality. The initiation of a national neonatal intensive care unit would be a major step forward to achieve this goal.

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Abstract #: 01SEDH037

Examining the link between prevalence of severe early childhood caries and self-reported oral health and quality of life outcomes

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Program/Project Purpose: Children in developing nations are vastly affected by malnutrition and tooth decay with rates of tooth decay increasing over the last several years. Oral health diseases have affected approximately 2.1 billion individuals worldwide, yet little attention has been given to improving oral health. Oral diseases negatively impact child nutrition, child growth, and child well-being. Many children in Ecuador are severely affected by oral diseases, so we aimed to work with different communities within the country in attempts to evaluate the effectiveness of public health interventions developed by Dr. Sokal-Gutierrez.

Structure/Method/Design: The interventions focus on reducing child malnutrition and oral diseases by educating communities, distributing toothbrushes and toothpaste, and providing fluoride varnish. We additionally surveyed parents and screened for malnutrition and childhood caries. We referred those children that had severe tooth decay to dentists at the Ministry of Health to ensure appropriate treatment. Over the past four years, this project has worked with seventeen different indigenous Kichwa tribes in the amazon jungle and has seen hundreds of children aged 6 months to 6 years.

Outcomes & Evaluation: In 2011, 732 children participated and 80.7% had tooth decay with an average of 6.80 decayed teeth per child. Two years later 78% of 700 children still had some tooth decay, but the average number of decay per child decreased to 5.64. In 2011

and 2013, the percentage of children with severe mouth pain was 25.03% and 25.20%, respectively. Malnutrition rates were between 30-40% during these years as well. The percentage of children with tooth decay, malnourishment, and mouth pain are very high due to a collection of risk factors. These include a lack of knowledge, increased access to junk food, lack of necessary resources such as toothbrushes and toothpaste, and poor practices from both parents and children. We hope to minimize those risk factors and poor outcomes. Our primary analysis, however, will focus on examining the relationship between prevalence of early childhood caries and malnutrition on self-reported oral health outcomes and quality of life. We also partnered with the Ecuadorian USFQ dental and public health school and reached out to 200 more children aged 6 months to 15 years in mountainous communities with a similar interventional approach.

Going Forward: Even though we worked with specific populations, we believe malnutrition and tooth decay continue to be a problem for children all over developing nations and developed nations alike. As access to and consumption of unhealthy and sugary foods become increasingly common in developing nations, tooth decay and malnutrition rates will continue to rise and negatively impact child health rise unless successful interventions are developed to combat this.

Funding: We received funding from UC Berkeley, the Rotary Club, and Harvard Medical School.

Abstract #: 01SEDH038

Livestock ownership and child stunting in Eastern Africa: an analysis of national survey data

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Background: Stunting in childhood (linear growth failure) has pervasive consequences that hinder not only individual development but impact population health and economic improvement. Rural areas shoulder an unequal burden of stunting, and One Health approaches may represent an innovative opportunity to addressing stunting in these areas. Livestock ownership may promote child growth by providing dietary diversity and wealth, or suppress it through zoonotic disease transmission, but the risk-benefit relationship is unclear. This study sought to evaluate whether national cross-sectional data show a relationship between livestock ownership and growth stunting.

Methods: This study was a regional analysis of the most recent Demographic and Health Survey cross-sectional datasets from three East African countries, including Kenya (2008-2009), Ethiopia (2011), and Uganda (2010), restricted to children under 5 years living in rural areas. We calculated a Tropical Livestock Unit (TLU) score, which combines multiple species of livestock into a single weighted measure to represent the amount of livestock owned. The association between family livestock ownership and stunting was assessed using a log-binomial model adjusted for wealth and region, and was stratified by diarrheal illness, animal-sourced foods, region within country, and wealth index to identify high risk subgroups.

Findings: This analysis included the households of 8720 children from Ethiopia, 2214 children from Uganda, and 4203 children from Kenya. Stunting was highly prevalent in each country, ranging from 23.4% in Kenya to 38.7% in Ethiopia. A TLU unit increase in livestock ownership was not significantly associated with stunting prevalence in Kenya or Uganda, but was associated with a 2% decrease in stunting prevalence in Ethiopia (Ethiopia- PR 0.98,