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INDEX COLLECTIONS GLOBAL SURGERY: TANZANIA

2020

INTERACTIVE PDF SERIES

A BIANNUAL LITERATURE SEARCH OF OPEN ACCESS, SCIENTIFIC ARTICLES RELATED TO GLOBAL SURGERY: TANZANIA

ABOUT THE ONE.SURGERY INDEX

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1. ASSESSMENT OF KNOWLEDGE AND COMPLIANCE TO EVIDENCE-BASED GUIDELINES FOR VAP PREVENTION AMONG ICU NURSES IN TANZANIA

Bmc Nursing

Authors: Vicent Bankanie, Anne Outwater, Li Wang, Li Yinglan
Region / country: Eastern Africa – Tanzania
Speciality: Critical care

Background: Implementation of evidence-based guidelines (EBGs) related to VAP is an effective measure for the prevention of ventilator-associated pneumonia (VAP). While low knowledge regarding the EBGs related to VAP prevention among ICU nurses is still a major concern among nurses in ICUs globally, the situation in Tanzania is scarcely known. This study aimed to assess the ICU nurses' knowledge, compliance, and barriers toward evidence-based guidelines for the prevention of VAP in Tanzania.
Methods: A cross-sectional study, involving ICU nurses of major hospitals in Tanzania, was conducted. A structured questionnaire was administered among 116 ICU. Data analysis included descriptive statistics and independent t-test.
Results: The mean knowledge score was 38.6% which is lower than the lowest ever reported knowledge score for EBGs for VAP prevention. Nurses with a degree or higher level of nursing education performed significantly better than the nurses with a diploma or lower level of nursing education(p=0.004). The mean self-reported adherence score for EBGs for the prevention of VAP was 60.8%. The main barriers to the implementation of EBGs for VAP prevention were lack of skills (96.6%), lack of adequate staff (95.5%), and lack of knowledge (79.3%).
Conclusion: Considering the severity and impact of VAP, and the higher risks of HAIs in resource-limited countries like Tanzania, the lower level of knowledge and compliance implies the need for on-going educational interventions and evaluation of the implementation of the EBGs for VAP prevention by considering the local context.

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2. THE IMPACT OF INADEQUATE SOFT-TISSUE COVERAGE FOLLOWING SEVERE OPEN TIBIA FRACTURES IN TANZANIA

Plastic And Reconstructive Surgery – Global Open

Authors: Jordan T. Holler, Madeline C. MacKechnie, Patrick D. Albright, Saam Morshed, David W. Shearer, Michael J. Terry
Region / country: Eastern Africa – Tanzania
Speciality: Trauma and orthopaedic surgery

Background:
Managing lower extremity fractures complicated by large soft-tissue defects is challenging for surgeons in low- and middle-income countries, and long-term quality of life (QOL) for these patients is unclear.
Methods:
We examined QOL, surgical complications, and longitudinal outcomes in 10 patients with Gustilo-Anderson Classification Type IIIB open tibia fractures seen at an orthopedic institute in Tanzania, from December 2015 to March 2017. Patients completed follow-up at 2-, 6-, 12-, 26-, and 52-week time points, and returned for qualitative interviews at 2.5 years. The primary outcome was QOL, as measured using EuroQoL-5D scores and qualitative semi-structured interview responses. The secondary outcome was rate of complication, as defined by reoperation for deep infection or nonunion.
Results:
Ten patients enrolled in the study and 7 completed 1-year follow-up. All fractures were caused by road traffic accidents and treated by external fixation. No patients received initial soft-tissue (flap) coverage of the wound. All patients developed an infected nonunion. No patients returned to work at 6 weeks, 3 months, or 6 months. EQ-5D index scores at 1 year were poor (0.71 ± 0.09). Interview themes included ongoing medical complications, loss of employment, reduced income, and difficulty with activities of daily living.
Conclusions:
Patients in low- and middle-income countries with IIIB open tibia fractures not treated with appropriate soft-tissue coverage experience poor QOL, high complication rates, and severe socioeconomic effects as a result of their injuries. These findings illustrate the need for resources and training to build capacity for extremity soft-tissue reconstruction in LMICs.

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3. EFFICACY OF TRANS-ABDOMINIS PLANE BLOCK FOR POST CESAREAN DELIVERY ANALGESIA IN LOW-INCOME COUNTRIES: A PHASE THREE FEASIBILITY STUDY.

Research Square

Authors: Evans Azina Sanga, Ansbert Sweetbert Ndebea, Shuweikha Salim, Mwemezi Kaino, Bernard Njau Kilimanjaro, Rogers Temu
Region / country: Eastern Africa – Tanzania
Speciality: Anaesthesia, Obstetrics and Gynaecology

Background: Optimal pain control in a parturient woman undergoing caesarean section is essential for preventing complications such as venous thrombo-embolism and improving maternal satisfaction, early
functional recovery, mother-baby bond and breastfeeding. Intentional pain assessment and adequate management to acceptable pain severity using multimodal methods can be achieved in low-middle
income countries (LMICs).
Aim: Is to assess the efficacy of transversus abdominis plane (TAP) block and satisfaction post-cesarean delivery analgesia at Kilimanjaro Christian Medical Centre in Low-Income countries.
Methods: The study population consisted of 72 participants who met criteria posted for elective and emergency caesarean section. They were blindly assigned into two groups: group A was the interventional group which received TAP block and standard pain management according to local protocols and consisted of 41 participants and group B was the control group which received standard pain management without TAP block and consisted of 31 participants. In Group A 30ml of 0.25% bupivacaine single shot was deposited in the TAP plane bilaterally for postoperative analgesia. Participants were randomized using a parallel method. Their demographics were recorded before surgery and visual analogue scale was used to assess postoperative pain at rest and on movement, and maternal satisfaction at 0hrs, 6hrs, 12hrs and 24hrs.
Results: Total of 72 patients were analyzed using NRS with pain score at 0hr, 6hr and 12hr was significantly low by about 50% in Intervened group as compared to control group with (p-value (2 tail) of <0.001 however at 24 hrs. was 0.272. Participant in group A had extra movements at 0hr, 6hrs and 12hrs with p-value <0.001 as compare to control cut had no significant difference when coughing. Maternal
satisfaction with pain management was 95.1% with no reported adverse event.
Conclusions: Trans Abdominis Plane block when used as part of multimodal pain management is more effective in managing post-cesarean pain resulting in less physical limitation and high maternal satisfaction.

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4. EFFECTS OF HELPING MOTHERS SURVIVE BLEEDING AFTER BIRTH IN-SERVICE TRAINING OF MATERNITY STAFF : A CLUSTER-RANDOMIZED TRIAL AND MIXED-METHOD EVALUATION

Global Public Health Karolinska Institutet

Authors: Alwy Al-beity, Fadhlun M
Region / country: Eastern Africa – Tanzania
Speciality: Obstetrics and Gynaecology

Background: Postpartum Haemorrhage (PPH) causes a significant amount of morbidity and mortality among mothers giving birth in sub-Saharan Africa, Tanzania included. One root cause is the insufficient health worker skills to address postpartum haemorrhage. To combat this in-service training using competency-based simulation is proposed.
Aim: To assess the effectiveness of the Helping Mothers Survive Bleeding After Birth (HMS BAB) in-service training of maternity staff on PPH related health outcomes, and health workers' skills. The thesis also assessed health workers' perceptions of the training and facility preparedness to support care of women with PPH in Tanzania.
Methods: Study I was conceptualised as a cluster-randomized trial. Interrupted time-series analysis was used to compare the following PPH related health outcomes i) PPH near miss and ii) PPH case fatality between 10 intervention and 10 comparison clusters. Study II was a before-after study of health workers (n=636), and assessed skills change immediately and ten months after the training, as well as the association between health workers' characteristics and skill change. Study III was a qualitative study using seven Focus Group Discussions (FGD) of health workers to explore their perceptions of the training implementation. A deductive theory-driven analysis informed by integrated Promoting Action on Research Implementation in Health Services (i-PARIHS) framework was used. Study IV explored health workers (FGDs, n=7) and health managers (In-depth interviews, n=12) perceptions of health facility preparedness to support care given to women with PPH. The data was analysed using thematic analysis.
Results: There was a significant decline of severe PPH cases in intervention clusters compared to the comparison clusters observed immediately after the intervention. This was sustained in the post-intervention period (Study I). A small reduction in PPH case fatality was observed in intervention clusters during the post-intervention period. Health workers' skills were significantly improved immediately after the training with a small decline at ten-months follow up (Study II). In Study III health workers reported positive perceptions of the training: the content, the training technique, use of simulated scenarios and peer practice facilitators enhanced learning. Challenges to successful training were related to organization of the training and allocating time for weekly skill practices. In Study IV health workers reported poor facility preparedness with inconsistencies and insufficiencies of resources, including few and overwhelmed maternity staff. This constrained their ability to use the new skills and to provide quality PPH-care. Additional challenges on human interactions such as communication, collaborations and leadership were highlighted.
Conclusion: The HMS BAB one-day training followed by eight weekly drills was effective in reducing PPH morbidities and mortality and improved health workers skills. Implementational challenges included i) organizational aspects of in-facility training, and ii) protected time for health workers to engage in weekly drills. Health providers voiced their struggle to put their new knowledge into practice highlighting insufficiencies in health facility readiness, such as lack of drugs and blood products.

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5. DOES HEALTH INSURANCE CONTRIBUTE TO IMPROVED UTILIZATION OF HEALTH CARE SERVICES FOR THE ELDERLY IN RURAL TANZANIA? A CROSS-SECTIONAL STUDY

Global Health Action

Authors: Malale Tungu , Paul Joseph Amani , Anna-Karin Hurtig , Angwara Dennis Kiwara , Mughwira Mwangu , Lars Lindholm & Miguel San Sebastiån
Region / country: Eastern Africa – Tanzania
Speciality: Health policy

Background: Health care systems in developing countries such as Tanzania depend heavily on out-of-pocket payments. This mechanism contributes to inefficiency, inequity and cost, and is a barrier to patients seeking access to care. There are efforts to expand health insurance coverage to vulnerable groups, including older adults, in Sub-Saharan African countries.
Objective: To analyse the association between health insurance and health service use in rural residents aged 60 and above in Tanzania.
Methods: Data were obtained from a household survey conducted in the Nzega and Igunga districts. A standardised survey instrument from the World Health Organization Study on global AGEing and adult health was used. This comprised of questions regarding demographic and socio-economic characteristics, health and insurance status, health seeking behaviours, sickness history (three months and one year prior to the survey), and the receipt of health care. A multistage sampling method was used to select wards, villages and respondents in each district. Local ward and hamlet officers guided the researchers in identifying households with older people. Crude and adjusted logistic regression methods were used to explore associations between health insurance and outpatient and inpatient health care use.
Results: The study sample comprised 1,899 people aged 60 and above of whom 44% reported having health insurance. A positive statistically significant association between health insurance and the utilisation of outpatient and inpatient care was observed in all models. The odds of using outpatient (adjusted OR = 2.20; 95% CI: 1.54, 3.14) and inpatient services (adjusted OR = 3.20; 95% CI: 2.46, 4.15) were higher among the insured.
Conclusion: Health insurance is a predictor of outpatient and inpatient health services in people aged 60 and above in rural Tanzania. Further research is needed to understand the perceptions of both the insured and uninsured regarding the quality of care received.

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6. AN ANALYSIS OF EMERGENCY CARE DELAYS EXPERIENCED BY TRAUMATIC BRAIN INJURY PATIENTS PRESENTING TO A REGIONAL REFERRAL HOSPITAL IN A LOW-INCOME COUNTRY

Plos One

Authors: Armand Zimmerman, Samara Fox, Randi Griffin, Taylor Nelp, Erika Bárbara Abreu Fonseca Thomaz, Mark Mvungi, Blandina T Mmbaga, Francis Sakita , Charles J Gerardo, Joao Ricardo Nickenig Vissoci, Catherine A Staton
Region / country: Eastern Africa – Tanzania
Speciality: Emergency surgery, Neurosurgery, Trauma and orthopaedic surgery

Background
Trauma is a leading cause of death and disability worldwide. In low- and middle-income countries (LMICs), trauma patients have a higher risk of experiencing delays to care due to limited hospital resources and difficulties in reaching a health facility. Reducing delays to care is an effective method for improving trauma outcomes. However, few studies have investigated the variety of care delays experienced by trauma patients in LMICs. The objective of this study was to describe the prevalence of pre- and in-hospital delays to care, and their association with poor outcomes among trauma patients in a low-income setting.
Methods
We used a prospective traumatic brain injury (TBI) registry from Kilimanjaro Christian Medical Center in Moshi, Tanzania to model nine unique delays to care. Multiple regression was used to identify delays significantly associated with poor in-hospital outcomes.
Results
Our analysis included 3209 TBI patients. The most common delay from injury occurrence to hospital arrival was 1.1 to 4.0 hours (31.9%). Most patients were evaluated by a physician within 15.0 minutes of arrival (69.2%). Nearly all severely injured patients needed and did not receive a brain computed tomography scan (95.0%). A majority of severely injured patients needed and did not receive oxygen (80.8%). Predictors of a poor outcome included delays to lab tests, fluids, oxygen, and non-TBI surgery.
Conclusions
Time to care data is informative, easy to collect, and available in any setting. Our time to care data revealed significant constraints to non-personnel related hospital resources. Severely injured patients with the greatest need for care lacked access to medical imaging, oxygen, and surgery. Insights from our study and future studies will help optimize resource allocation in low-income hospitals thereby reducing delays to care and improving trauma outcomes in LMICs.

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7. DAY CASE LAPAROSCOPIC CHOLECYSTECTOMY AT KILIMANJARO CHRISTIAN MEDICAL CENTRE, TANZANIA

Surgical Endoscopy

Authors: Imogen Cullen, Fadlo Shaban, Oroog Ali, Matthew Breckons, Kondo Chilonga, Daudi Wapalila, Jamil Suleilman, Mercy Elinisa, Bronwyn Woodburn, Richard Walker & Liam Horgan
Region / country: Eastern Africa – Tanzania
Speciality: General surgery

Introduction: The Lancet Commission on Global Surgery has promoted the case for safe, affordable surgical care in low- and middle-income countries (LMICs). In 2017, Kilimanjaro Christian Medical Centre (KCMC) in Tanzania introduced a day case laparoscopic cholecystectomy (DCLC) service, the first of its kind in Sub-Saharan Africa (SSA). We aimed to evaluate this novel service in terms of safety, feasibility and acceptability by patients and staff.
Methods: This study used mixed methods and was split into two stages. In stage 1, we reviewed records of all laparoscopic cholecystectomies (LCs) comparing day cases and admissions. These patients were followed up with a telephone questionnaire to investigate complication rates and receive service feedback. Stage 2 consisted of semi-structured interviews with staff exploring the challenges KCMC faced in implementing DCLC.
Results: 147 laparoscopic cholecystectomies were completed: 109 were planned for DCLC, 82 (75.2%) of which were successful, whilst 27 (24.8%) patients were admitted. No variables significantly predicted unplanned admission, the commonest causes for which were pain and nausea. In the DCLC group there was 1 readmission. 62 patients answered the follow up questionnaire, 60 (97%) of which were satisfied with the service. Stage 2 interviews suggested staff to be motivated for DCLC but revealed poor organisation of the day case pathway.
Conclusion: High rates of DCLC combined with low rates of complications and readmission suggests DCLC is feasible at KCMC. However, staff interviews alluded to administrative problems preventing KCMC from reaching its full DCLC potential. A dedicated day case surgery unit would address most of these problems.

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8. IN-HOSPITAL POSTOPERATIVE MORTALITY RATES FOR SELECTED PROCEDURES IN TANZANIA'S LAKE ZONE

World Journal Of Surgery

Authors: Taylor Wurdeman, Christopher Strader, Shehnaz Alidina, David Barash, Isabelle Citron, Ntuli Kapologwe, Erastus Maina, Fabian Massaga, Adelina Mazhiqi, John G. Meara, Gopal Menon, Cheri Reynolds, Meaghan Sydlowski, John Varallo, Sarah Maongezi, Mpoki Ulisubisya
Region / country: Eastern Africa – Tanzania
Speciality: Emergency surgery, General surgery, Obstetrics and Gynaecology

Background
Postoperative mortality rate is one of six surgical indicators identified by the Lancet Commission on Global Surgery for monitoring access to high-quality surgical care. The primary aim of this study was to measure the postoperative mortality rate in Tanzania's Lake Zone to provide a baseline for surgical strengthening efforts. The secondary aim was to measure the effect of Safe Surgery 2020, a multi-component intervention to improve surgical quality, on postoperative mortality after 10 months.
Methods
We prospectively collected data on postoperative mortality from 20 health centers, district hospitals, and regional hospitals in Tanzania's Lake Zone over two time periods: pre-intervention (February to April 2018) and post-intervention (March to May 2019). We analyzed postoperative mortality rates by procedure type. We used logistic regression to determine the impact of Safe Surgery 2020 on postoperative mortality.
Results
The overall average in-hospital non-obstetric postoperative mortality rate for all surgery procedures was 2.62%. The postoperative mortality rates for laparotomy were 3.92% and for cesarean delivery was 0.24%. Logistic regression demonstrated no difference in the postoperative mortality rate after the Safe Surgery 2020 intervention.
Conclusions
Our results inform national surgical planning in Tanzania by providing a sub-national baseline estimate of postoperative mortality rates for multiple surgical procedures and serve as a basis from which to measure the impact of future surgical quality interventions. Our study showed no improvement in postoperative mortality after implementation of Safe Surgery 2020, possibly due to low power to detect change.

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9. SURGICAL REFERRALS IN NORTHERN TANZANIA: A PROSPECTIVE ASSESSMENT OF RATES, PREVENTABILITY, REASONS AND PATTERNS

Bmc Health Services Research

Authors: Desmond T. Jumbam, Gopal Menon, Tenzing N. Lama, William Lodge II, Sarah Maongezi, Ntuli A. Kapologwe, Isabelle Citron, David Barash, John Varallo, Erin Barringer, Monica Cainer, Mpoki Ulisubisya, Shehnaz Alidina & Boniface Nguhuni
Region / country: Eastern Africa – Tanzania
Speciality: Health policy

Background
An effective referral system is essential for a high-quality health system that provides safe surgical care while optimizing patient outcomes and ensuring efficiency. The role of referral systems in countries with under-resourced health systems is poorly understood. The aim of this study was to examine the rates, preventability, reasons and patterns of outward referrals of surgical patients across three levels of the healthcare system in Northern Tanzania.
Methods
Referrals from surgical and obstetric wards were assessed at 20 health facilities in five rural regions prospectively over 3 months. Trained physician data collectors used data collection forms to capture referral details daily from hospital referral letters and through discussions with clinicians and nurses. Referrals were deemed preventable if the presenting condition was one that should be managed at the referring facility level per the national surgical, obstetric and anaesthesia plan but was referred.
Results
Seven hundred forty-three total outward referrals were recorded during the study period. The referral rate was highest at regional hospitals (2.9%), followed by district hospitals (1.9%) and health centers (1.5%). About 35% of all referrals were preventable, with the highest rate from regional hospitals (70%). The most common reasons for referrals were staff-related (76%), followed by equipment (55%) and drugs or supplies (21%). Patient preference accounted for 1% of referrals. Three quarters of referrals (77%) were to the zonal hospital, followed by the regional hospitals (17%) and district hospitals (12%). The most common reason for referral to zonal (84%) and regional level (66%) hospitals was need for specialist care while the most common reason for referral to district level hospitals was non-functional imaging diagnostic equipment (28%).
Conclusions
Improving the referral system in Tanzania, in order to improve quality and efficiency of patient care, will require significant investments in human resources and equipment to meet the recommended standards at each level of care. Specifically, improving access to specialists at regional referral and district hospitals is likely to reduce the number of preventable referrals to higher level hospitals, thereby reducing overcrowding at higher-level hospitals and improving the efficiency of the health system.

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10. COST-EFFECTIVENESS OF OPERATING ON TRAUMATIC SPINAL INJURIES IN LOW-MIDDLE INCOME COUNTRIES: A PRELIMINARY REPORT FROM A MAJOR EAST AFRICAN REFERRAL CENTER

Global Spine Journal

Authors: Cost-Effectiveness of Operating on Traumatic Spinal Injuries in Low-Middle Income CounNoah L. Lessing, BS, Scott L. Zuckerman, MD, MPH, Albert Lazaro, MD, Ashley A. Leech, PhD, MS, Andreas Leidinger, MD, Nicephorus Rutabasibwa, MD, Hamisi K. Shabani, MD, PhD, Halinder S. Mangat, MD, Roger Härtl, MD
Region / country: Eastern Africa – Tanzania
Speciality: Neurosurgery, Trauma surgery

Study Design:
Retrospective cost-effectiveness analysis.
Objectives:
While the incidence of traumatic spine injury (TSI) is high in low-middle income countries (LMICs), surgery is rarely possible due to cost-prohibitive implants. The objective of this study was to conduct a preliminary cost-effectiveness analysis of operative treatment of TSI patients in a LMIC setting.
Methods:
At a tertiary hospital in Tanzania from September 2016 to May 2019, a retrospective analysis was conducted to estimate the cost-effectiveness of operative versus nonoperative treatment of TSI. Operative treatment included decompression/stabilization. Nonoperative treatment meant 3 months of bed rest. Direct costs included imaging, operating fees, surgical implants, and length of stay. Four patient scenarios were chosen to represent the heterogeneity of spine trauma: Quadriplegic, paraplegic, neurologic improvement, and neurologically intact. Disability-adjusted-life-years (DALYs) and incremental-cost-effectiveness ratios were calculated to determine the cost per unit benefit of operative versus nonoperative treatment. Cost/DALY averted was the primary outcome (i.e., the amount of money required to avoid losing 1 year of healthy life).
Results:
A total of 270 TSI patients were included (125 operative; 145 nonoperative). Operative treatment averaged $731/patient. Nonoperative care averaged $212/patient. Comparing operative versus nonoperative treatment, the incremental cost/DALY averted for each patient outcome was: quadriplegic ($112-$158/DALY averted), paraplegic ($47-$67/DALY averted), neurologic improvement ($50-$71/DALY averted), neurologically intact ($41-$58/DALY averted). Sensitivity analysis confirmed these findings without major differences.
Conclusions:
This preliminary cost-effectiveness analysis suggests that the upfront costs of spine trauma surgery may be offset by a reduction in disability. LMIC governments should consider conducting more spine trauma cost-effectiveness analyses and including spine trauma surgery in universal health care.

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11. CANCER INCIDENCE AND TREATMENT UTILIZATION PATTERNS AT A REGIONAL CANCER CENTER IN TANZANIA FROM 2008-2016: INITIAL REPORT OF 2,772 CASES

Cancer Epidemiology

Authors: Adam C Olson , Franco Afyusisye , Joe Egger , David Noyd , Beda Likonda , Nestory Masalu , Gita Suneja , Nelson Chao , Leah L Zullig , Kristin Schroeder
Region / country: Eastern Africa – Tanzania
Speciality: Surgical oncology

Purpose: To describe cancer incidence and treatment utilization patterns at the regional cancer referral center for the Lake Zone of northwestern Tanzania from 2008 to 2016.
Methods: This descriptive, retrospective study reviewed all cancer cases recorded in the Bugando Cancer Registry (BCR), a clinical and pathology based registry at the only cancer referral hospital in the region. Primary tumor site, method of diagnosis, HIV status, and cancer treatment were reported. Using census data, the 2012 GLOBOCAN estimates for Tanzania were scaled to the Lake Zone and adjusted for 2016 population growth. These estimates were then compared to BCR cases using one-sample tests of proportion.
Results: A total of 2772 cases were reported from 2008-2016. Among these, the majority of cases (82.5 %, n = 2286) were diagnosed among adults. Most cases (85 %, n = 1923) were diagnosed by histology or cytology. Among adults, the most common cancers diagnosed were cervix (22.7 %, n=520), breast (12.6 %, n=288), and prostate (8.5 %, n=195). Among children, the most common cancers were non-Burkitt non-Hodgkin lymphoma (17.3 %, n=84), Burkitt lymphoma (16.5 %, n=80), and Wilms tumor (14.6 %, n=71). The 1116 BCR cases represent 12.2 % of the 9165 expected number of cancer cases for the Lake Zone ($p < 0.001$). 1494 cases (53.9 %) received some form of treatment – surgery, chemotherapy, radiation, or hormone therapy – while 1278 cases (46.1 %) had no treatment recorded.
Conclusions: This comprehensive report of the BCR reveals cancer epidemiology and treatment utilization patterns typical of hospitals in low-resource settings. Despite being the only cancer center in the Lake Zone, BMC evaluates a small percentage of the expected number of cancer patients for the region. The BCR remains an important resource to guide clinical care and academic activities for the Lake Zone.

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12. OXYGEN AVAILABILITY IN SUB-SAHARAN AFRICAN COUNTRIES: A CALL FOR DATA TO INFORM SERVICE DELIVERY

Lancet Global Health

Authors: Sowmya Mangipudi , Andrew Leather , Ahmed Seedat , Justine Davies
Region / country: Central Africa, Eastern Africa, Middle Africa, Northern Africa, Southern Africa, Western Africa – Democratic Republic of the Congo, Malawi, Senegal, Tanzania
Speciality: Other

Oxygen is central to the management of patients admitted to hospital with severe COVID-19. Furthermore, the availability of oxygen therapy is just as important for the management of other patients who are acutely ill. However, despite recognition from most health-care providers that oxygen is a fundamental component of a health-care system, it has not been a focus of health-care delivery in sub-Saharan African countries, as shown by the lack of data collected on oxygen availability.

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13. THE EFFECTIVENESS OF BURN SCAR CONTRACTURE RELEASE SURGERY IN LOW- AND MIDDLE-INCOME COUNTRIES

Plastic And Reconstructive Surgery – Global Open

Authors: Matthijs Botman MD, Thom C. C. Hendriks MD, Louise E. M. de Haas MD, Grayson S. Mtui MD, Emanuel Q. Nuwass MD, Mariëlle E. H. Jaspers MD PhD, Anuschka S. Niemeijer PhD, Marianne K. Nieuwenhuis MD PhD, Henri A. H. Winters MD PhD, Paul P. M. Van Zuijlen MD PhD
Region / country: Eastern Africa – Tanzania
Speciality: Plastic surgery, Trauma surgery

Background:
Worldwide, many scar contracture release surgeries are performed to improve range of motion (ROM) after a burn injury. There is a particular need in low- and middle-income countries (LMICs) for such procedures. However, well-designed longitudinal studies on this topic are lacking globally. The present study therefore aimed to evaluate the long-term effectiveness of contracture release surgery performed in an LMIC.
Methods:
This pre-/postintervention study was conducted in a rural regional referral hospital in Tanzania. All patients undergoing contracture release surgery during surgical missions were eligible. ROM data were indexed to normal values to compare various joints. Surgery was considered effective if the ROM of all planes of motion of a single joint increased at least 25% postoperatively or if the ROM reached 100% of normal ROM. Follow-ups were at discharge and at 1, 3, 6, and 12 months postoperatively.
Results:
A total of 70 joints of 44 patients were included. Follow-up rate at 12 months was 86%. Contracture release surgery was effective in 79% of the joints ($P < 0.001$) and resulted in a mean ROM improvement from 32% to 90% of the normal value ($P < 0.001$). A predictive factor for a quicker rehabilitation was lower age ($R2 = 11\%$, $P = 0.001$). Complication rate was 52%, consisting of mostly minor complications.
Conclusions:
This is the first study to evaluate the long-term effectiveness of contracture release surgery in an LMIC. The follow-up rate was high and showed that contracture release surgery is safe, effective, and sustainable. We call for the implementation of outcome research in future surgical missions.

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14. PERIOPERATIVE SERUM ALBUMIN AS A PREDICTOR OF ADVERSE OUTCOMES IN ABDOMINAL SURGERY: PROSPECTIVE COHORT HOSPITAL BASED STUDY IN NORTHERN TANZANIA

Bmc Surgery

Authors: Christian Ephata Issangya, David Msuya, Kondo Chilonga, Ayesiga Herman, Elichilia Shao, Febronia Shirima, Elifaraja Naman, Henry Mkumbi, Jeremia Pyuza, Emmanuel Mtui, Leah Anku Sanga, Seif Abdul, Beatrice John Leyaro, Samuel Chugulu
Region / country: Eastern Africa – Tanzania
Speciality: General surgery

Background: Albumin is an important protein that transports hormones, fatty acids, and exogenous drugs; it also maintains plasma oncotic pressure. Albumin is considered a negative active phase protein because it decreases during injuries and sepsis. In spite of other factors predicting surgical outcomes, the effect of pre and postoperative serum albumin to surgical complications can be assessed by calculating the percentage decrease in albumin (delta albumin). This study aimed to explore perioperative serum albumin as a predictor of adverse outcomes in major abdominal surgeries.
Methods: All eligible adult participants from Kilimanjaro Christian Medical Centre Surgical Department were enrolled in a convenient manner. Data were collected using a study questionnaire. Full Blood Count (FBP), serum albumin levels preoperatively and on postoperative day 1 were measured in accordance with Laboratory Standard Operating Procedures (SOP). Data was entered and analyzed using STATA version 14. Association and extent of decrease in albumin levels as a predictor of surgical site infection (SSI), delayed wound healing and death within 30 days of surgery was determined using ordinal logistic regression models. In determining the diagnostic accuracy, a Non-parametric Receiver Operating Curve (ROC) model was used. We adjusted for ASA classification, which had a negative confounding effect on the predictive power of the percent drop in albumin to adverse outcomes.
Results: Sixty one participants were studied; the mean age was 51.6 (SD16.3), the majorities were males 40 (65.6%) and post-operative adverse outcomes were experienced by 28 (45.9%) participants. In preoperative serum albumin values, 40 (67.8%) had lower than 3.4 g/l while 51 (91%) had postoperative albumin values lower than 3.4 g/l. Only 15 (27.3%) had high delta albumin with the median percentage value of 14.77%. Delta albumin was an independent significant factor associated with adverse outcome (OR: 6.68; 95% CI: 1.59, 28.09); with a good predictive power and area under ROC curve (AUC) of 0.72 (95% CI 0.55 0.89). The best cutoff value was 11.61% with a sensitivity of 76.92% and specificity of 51.72%.
Conclusion: Early perioperative decreases in serum albumin levels may be a good, simple and cost effective tool to predict adverse outcomes in major abdominal surgeries.

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15. BARRIERS AND FACILITATORS TO IMPLEMENTING TRAUMA REGISTRIES IN LOW- AND MIDDLE-INCOME COUNTRIES: QUALITATIVE EXPERIENCES FROM TANZANIA

African Journal Of Emergency Medicine

Authors: Hendry R.Sawe, Nathanael Sirili, Ellen Weber, Timothy J.Coats, Lee A.Wallis, Teri A.Reynolds
Region / country: Eastern Africa – Tanzania
Speciality: Emergency surgery, Trauma surgery

Background
The burden of trauma in low and middle-income countries (LMICs) is disproportionately high: LMICs account for nearly 90% of the global trauma deaths. Lack of trauma data has been identified as one of the major challenges in addressing the quality of trauma care and informing injury-preventing strategies in LMICs. This study aimed to explore the barriers and facilitators of current trauma documentation practices towards the development of a national trauma registry (TR).
Methods
An exploratory qualitative study was conducted at five regional hospitals between August 2018 and December 2018. Five focus group discussions (FGDs) were conducted with 49 participants from five regional hospitals. Participants included specialists, medical doctors, assistant medical officers, clinical officers, nurses, health clerks and information communication and technology officers. Participants came from the emergency units, surgical and orthopaedic inpatient units, and they had permanent placement to work in these units as non-rotating staff. We analysed the gathered information using a hybrid thematic analysis.
Results
Inconsistent documentation and archiving system, the disparity in knowledge and experience of trauma documentation, attitudes towards documentation and limitations of human and infrastructural resources in facilities we found as major barriers to the implementation of trauma registry. Health facilities commitment to standardising care, Ministry of Health and medicolegal data reporting requirements, and insurance reimbursements criteria of documentation were found as major facilitators to implementing trauma registry.
Conclusions
Implementation of a trauma registry in regional hospitals is impacted by multiple barriers related to providers, the volume of documentation, resource availability for care, and facility care flow processes. However, financial, legal and administrative data reporting requirements exist as important facilitators in implementing the trauma registry at these hospitals. Capitalizing in the identified facilitators and investing to address the revealed barriers through contextualized interventions in Tanzania and other LMICs is recommended by this study.

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16. GYNECOLOGICAL HYSTERECTOMY IN NORTHERN TANZANIA: A CROSS- SECTIONAL STUDY ON THE OUTCOMES AND CORRELATION BETWEEN CLINICAL AND HISTOLOGICAL DIAGNOSES

Bmc Women’s Health

Authors: Daniel Michael, Alex Mremi, Patricia Swai, Benjamin C Shayo, Bariki Mchome
Region / country: Eastern Africa – Tanzania
Speciality: Obstetrics and Gynaecology

Background
Hysterectomy is one of the most common gynaecological procedures performed worldwide. The magnitude of the complications related to hysterectomy and their risk factors are bound to differ based on locations, availability of resources and level of surgical training. Documented complications rates and their correlates are reported from high income countries while data from low- and middle-income countries including Tanzania is scare.
Methods
This was a hospital based cross-sectional study conducted at a tertiary facility in northern Tanzania where 178 women who underwent elective gynecological hysterectomies in the department of obstetrics and gynecology within the study period were enrolled. Logistic regression was performed to determine the association between risk factors and occurrence of surgical complication where p-value of 2 h) (OR 5.02; 95% CI 2.18–11.5). Both uterine fibroid and adenomyosis had good correlation of clinical and histological diagnosis (p-value < 0.001).
Conclusion
Bleeding and blood transfusion were the most common complications observed in this study. Obesity, previous abdominal operation and prolonged duration of operation were the most significant risk factors for the complications. Local tailored interventions to reduce surgical complications of hysterectomy are thus pivotal. Clinicians in this locality should have resources at their disposal to enhance definitive diagnosis attainment before surgical interventions.

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17. AETIOLOGIES AND OUTCOMES OF PATIENTS WITH ABDOMINAL PAIN PRESENTING TO AN EMERGENCY DEPARTMENT OF A TERTIARY HOSPITAL IN TANZANIA: A PROSPECTIVE COHORT STUDY

Bmc Gastroentrology

Authors: Kilalo M Mjema , Hendry R Sawe , Irene Kulola , Amour S Mohamed , Erasto Sylvanus , Juma A Mfinanga , Ellen J Weber
Region / country: Eastern Africa – Tanzania
Speciality: Emergency surgery

Background: Abdominal pain in adults represents a wide range of illnesses, often warranting immediate intervention. This study is to fill the gap in the knowledge about incidence, presentation, causes and mortality from abdominal pain in an established emergency department of a tertiary hospital in Tanzania.
Methods: This was a prospective cohort study of adult (age ≥ 18 years) patients presenting to the Emergency Medicine Department of Muhimbili National Hospital (EMD-MNH) in Dar Es Salaam, Tanzania with non-traumatic abdominal pain from September 2017 to October 2017. A case report form was used to record data on demographics, clinical presentation, management, diagnosis, outcomes and patient follow-up. The primary outcome of mortality was summarized using descriptive statistics; secondary outcome was, risks for mortality.
Results: Among 3381 adult patients present during the study period, 288 (8.5%) presented with abdominal pain, and of these 199 (69%) patients were enrolled in our study. Median age was 47 years (IQR 35-60 years), 126 (63%) were female, and 118 (59%) were referred from another hospital. Most common final diagnoses were malignancies 71 (36%), intestinal obstruction 11 (6%) and peptic ulcer disease 9 (5%). Most common EMD interventions given were intravenous fluids 57 (21%), analgesia 49 (25%) and antibiotics 40 (20%). 160 (80%) were admitted of which 15 (8%) underwent surgery directly from EMD. 24-h and 7-day mortality were 4 (2%) and 7 (4%) respectively, while overall in hospital-mortality was 16 (8%). Among the risk factors for mortality were male sex Relative Risk (RR) 2.88 ($p = 0.03$), hypoglycemia (RR) 5.7 ($p = 0.004$), ICU admission (RR) 14 ($p < 0.0001$), receipt of IV fluids (RR) 3.2 ($p = 0.0151$) and need for surgery (RR) 6.6 ($p = 0.0001$).
Conclusion: Abdominal pain was associated with significant morbidity and mortality as evidenced by a very high admission rate, need for surgical intervention and a high in-hospital mortality rate. Future studies and quality improvement efforts should focus on identifying why such differences exist and how to reduce the mortality.

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18. BURDEN AND FACTORS ASSOCIATED WITH REFRACTIVE ERRORS POST CATARACT SURGERY AT KILIMANJARO CHRISTIAN MEDICAL CENTER: A HOSPITAL BASED RETROSPECTIVE CROSS-SECTIONAL STUDY

Ophthalmology Research: An International Journal

Authors: Livin Uwemeye, William U. Makupa
Region / country: Eastern Africa – Tanzania
Speciality: Ophthalmology

Aims: To determine the burden and factors associated with refractive errors after cataract surgery in a training institution.
Study Design: A retrospective cross-sectional study.
Place and Duration of the Study: Kilimanjaro Christian Medical Center Eye department. Northern Tanzania, from January 2016 to December 2017.
Methods: A review of files of all adult patients who have had cataract surgery in 2016 and 2017 was conducted. A total of 626 eyes of 554 patients who had post-operative refraction by experienced optometrists were included. Information were extracted from patients' files then entered into SPSS version 20 for analysis. The main outcomes were post-operative refraction and best corrected visual acuity.
Results: Mean age was 69.3 years (SD=10.7) and ECCE accounted for 76% of surgeries. At least 84.6% had post-operative refractive error and astigmatism was the most common refractive error (56.8%). Spherical error accounted for 27.8%. Spherical error ranged from -12 to 4DS, mean = -0.42 (SD=1.3) DS and median = 0.00DS. The maximum cylindrical error was -7.5 DC, mean = -1.15 (SD=1.36) DC and median = -1.0DC. At least 56% had spherical equivalent within 1D of emmetropia. A BCVA of 6/18 or better was achieved in 92.8%. Age, poor pre-operative VA, poor presenting VA, astigmatism on keratometry, difference between recommended and inserted IOL, ECCE, grade of surgeon and suturing were associated with refractive errors.
Conclusion: Refractive errors following cataract surgery are common. Best corrected visual acuity outcome was in normal recommended range; however, the magnitude of refractive errors was high and the proportion of patients who achieved a final refraction within 1D of emmetropia was below the recommended range. An effort should be made to lower the prevalence and magnitude of refractive errors associated with cataract surgery in training institutions.

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19. NONOPERATIVE TREATMENT OF TRAUMATIC SPINAL INJURIES IN TANZANIA: WHO IS NOT UNDERGOING SURGERY AND WHY?

Spinal Cord

Authors: Noah L Lessing, Albert Lazaro, Scott L Zuckerman, Andreas Leidinger, Nicephorus Rutabasibwa, Hamisi K Shabani, Roger Härtl
Region / country: Eastern Africa – Tanzania
Speciality: Neurosurgery, Trauma surgery

Study design: Retrospective, cohort study of a prospectively collected database.
Objectives: In a cohort of patients with traumatic spine injury (TSI) in Tanzania who did not undergo surgery, we sought to: (1) describe this nonoperative population, (2) compare outcomes to operative patients, and (3) determine predictors of nonoperative treatment.
Setting: Tertiary referral hospital.
Methods: All patients admitted for TSI over a 33-month period were reviewed. Variables included demographics, fracture morphology, neurologic exam, indication for surgery, length of hospitalization, and mortality. Regression analyses were used to report outcomes and predictors of nonoperative treatment.
Results: 270 patients met inclusion criteria, of which 145 were managed nonoperatively. Demographics between groups were similar. The nonoperative group was young (mean = 35.5 years) and primarily male (n = 125, 86%). Nonoperative patients had 7.39 times the odds of death ($p = 0.003$). Patients with AO type A0/1/2/3 fractures ($p < 0.001$), ASIA E exams ($p = 0.016$), cervical spine injuries ($p = 0.005$), and central cord syndrome ($p = 0.016$) were more commonly managed nonoperatively. One hundred and twenty-four patients (86%) had indications for but did not undergo surgery. After multivariate analysis, the only predictor of nonoperative management was sustaining a cervical injury ($p < 0.001$).
Conclusions: Eighty-six percent of nonoperative TSI patients had an indication for surgery. Nonoperative management was associated with an increased risk of mortality. Cervical injury was the single independent risk factor for not undergoing surgery. The principle reason for nonoperative management was cost of implants. While a causal relationship between nonoperative management and inferior outcomes cannot be made, efforts should be made to provide surgery when indicated, regardless of a patient's ability to pay.

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20. M-HEALTH FOR BURN INJURY CONSULTATIONS IN A LOW-RESOURCE SETTING: AN ACCEPTABILITY STUDY AMONG HEALTH CARE PROVIDERS

Telemedicine And E-Health

Authors: Anders Klingberg, Hendry Robert Sawe, Ulf Hammar, Lee Alan Wallis, and Marie Hasselberg
Region / country: Eastern Africa – Tanzania
Speciality: Emergency surgery, Plastic surgery

Introduction:The rapid adoption of smartphones, especially in low- and middle-income countries, has opened up novel ways to deliver health care, including diagnosis and management of burns. This study was conducted to measure acceptability and to identify factors that influence health care provider's attitudes toward m-health technology for emergency care of burn patients.
Methods:An extended version of the technology acceptance model (TAM) was used to assess the acceptability toward using m-health for burns. A questionnaire was distributed to health professionals at four hospitals in Dar Es Salaam, Tanzania. The questionnaire was based on several validated instruments and has previously been adopted for the sub-Saharan context. It measured constructs, including acceptability, usefulness, ease of use, social influences, and voluntariness. Univariate analysis was used to test our proposed hypotheses, and structural equation modeling was used to test the extended version of TAM.
Results:In our proposed test-model based on TAM, we found a significant relationship between compatibility—usefulness and usefulness—attitudes. The univariate analysis further revealed some differences between subgroups. Almost all health professionals in our sample already use smartphones for work purposes and were positive about using smartphones for burn consultations. Despite participants perceiving the application to be easy to use, they suggested that training and ongoing support should be available. Barriers mentioned include access to wireless internet and access to hospital-provided smartphones.

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21. LESSONS FROM DEVELOPING, IMPLEMENTING AND SUSTAINING A PARTICIPATORY PARTNERSHIP FOR CHILDREN’S SURGICAL CARE IN TANZANIA

Bmj Global Health

Authors: Godfrey Sama Philipo , Shobhana Nagraj , Zaitun M Bokhary , Kokila Lakhoo
Region / country: Eastern Africa, Global – Tanzania
Speciality: Paediatric surgery

Global surgery is an essential component of Universal Health Coverage. Surgical conditions account for almost one-third of the global burden of disease, with the majority of patients living in low-income and middle-income countries (LMICs). Children account for more than half of the global population; however, in many LMIC settings they have poor access to surgical care due to a lack of workforce and health system infrastructure to match the need for children’s surgery. Surgical providers from high-income countries volunteer to visit LMICs and partner with the local providers to deliver surgical care and trainings to improve outcomes. However, some of these altruistic efforts fail. We aim to share our experience on developing, implementing and sustaining a partnership in global children’s surgery in Tanzania. The use of participatory methods facilitated a successful 17-yearlong partnership, ensured a non-hierarchical environment and encouraged an understanding of the context, local needs, available resources and hospital capacity, including budget constraints, when codesigning solutions. We believe that participatory approaches are feasible and valuable in developing, implementing and sustaining global partnerships for children’s surgery in LMICs.

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22. TRAUMA BURDEN, PATIENT DEMOGRAPHICS AND CARE-PROCESS IN MAJOR HOSPITALS IN TANZANIA: A NEEDS ASSESSMENT FOR IMPROVING HEALTHCARE RESOURCE MANAGEMENT

African Journal Of Emergency Medicine

Authors: Michael Mwandri, Timothy Craig Hardcastle, Hendry Sawe, Francis Sakita, Juma Mfinanga, Sarah Urassa, Alex Mremi, Lazaro Nelbert Mboma, Prosper Bashaka
Region / country: Eastern Africa – Tanzania
Speciality: Emergency surgery, Trauma surgery

Background
Appropriate referrals of injured patients could improve clinical outcomes and management of healthcare resources. To gain insights for system development, we interrogated the current situation by assessing burden, patient demography, causes of injury, trauma mortality and the care-process.
Methods
We used an observational, cross-sectional study design and convenience sampling to review patient charts from 3 major hospitals and the death registry in Tanzania.
Results
Injury constitutes 9–13% of the Emergency Centre census. Inpatient trauma-deaths were 8%; however, the trauma death registry figures exceeded the ‘inpatient deaths’ and recorded up to 16%. Most patients arrive through a hospital referral system (82%) and use a hospital transport network (76%). Only 8% of the trauma admissions possessed National Health Insurance. Road traffic collision (RTC) (69%), assault (20%) and falls (9%) were the leading causes of injury. The care process revealed a normal primary-survey rate of 73–90%. Deficiencies in recording were in the assessment of: Airway and breathing (67%), circulation (40%) and disability (80%). Most patients had non-operative management (42–57%) or surgery for wound care or skeletal injuries (43%). Laparotomies were performed in 26%, while craniotomy and chest drain-insertion were each performed in 10%.
Conclusion
The burden of trauma is high, and the leading causes are: RTC, assault, and falls. Deaths recorded in the death registries outweigh in-hospital deaths for up to twofold. There are challenges in the care process, funding and recording. We found a functional hospital referral-network, transport system, and death registry.

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23. TRAVEL BARRIERS, UNEMPLOYMENT, AND EXTERNAL FIXATION PREDICT LOSS TO FOLLOW-UP AFTER SURGICAL MANAGEMENT OF LOWER EXTREMITY FRACTURES IN DAR ES SALAAM, TANZANIA

Open Access Journal Of Orthopedic Trauma

Authors: Patterson, Joseph T. MD, Albright, Patrick D. BS, MS, Jackson, J. Hunter BA, Eliezer, Edmund N. MD, Haonga, Billy T. MD, Morshed, Saam MD, MPH, PhD, Shearer, David W. MD, MPH
Region / country: Eastern Africa – Tanzania
Speciality: Trauma and orthopaedic surgery, Trauma surgery

Objective:
Predict loss to follow-up in prospective clinical investigations of lower extremity fracture surgery.
Design:
Secondary analysis of 2 prospective clinical trials.
Setting:
National public orthopaedic and neurologic trauma tertiary referral hospital in Dar es Salaam, Tanzania, a low-income country in sub-Saharan Africa.
Patients/Participants:
Three hundred twenty-nine femoral shaft and 240 open tibial shaft fracture patients prospectively enrolled in prospective controlled trials of surgical fracture management by external fixation, plating, or intramedullary nailing between June 2015 and March 2017.
Intervention:
Telephone contact for failure to attend scheduled 1-year clinic visit.
Main Outcome Measurements:
Ascertainment of primary trial outcome at 1-year from surgery; post-hoc telephone questionnaire for reasons patient did not attend the 1-year clinic visit.
Results:
One hundred twenty-seven femur fracture (39%) and 68 open tibia fracture (28%) patients did not attend the 1-year clinic visit. Telephone contact significantly improved ascertainment of the primary study outcome by 20% between 6-month and 1-year clinic visits to 82% and 92% respectively at study completion. Multivariable analysis associated unemployment (OR = 2.5 [1.7–3.9], $P < .001$), treatment with an external fixator (OR = 1.7 [1.0–2.8], P = .033), and each additional 20 km between residence and clinic (OR = 1.03 [1.00–1.06], P = .047] with clinic nonattendance. One hundred eight (55%) nonattending patients completed the telephone questionnaire, reporting travel distance to the hospital (49%), and travel costs to the hospital (46%) as the most prevalent reasons for nonattendance. Sixty-five percent of patients with open tibia fractures cited relocation after surgery as a contributing factor.
Conclusions:
Relocation during recovery, travel distance, travel cost, unemployment, and use of an external fixator are associated with loss to clinical follow-up in prospective investigations of femur and open tibia fracture surgery in this population. Telephone contact is an effective means to assess outcome.

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24. MANAGEMENT AND OUTCOMES FOLLOWING EMERGENCY SURGERY FOR TRAUMATIC BRAIN INJURY – A MULTI-CENTRE, INTERNATIONAL, PROSPECTIVE COHORT STUDY (THE GLOBAL NEUROTRAUMA OUTCOMES STUDY).

International Journal Of Surgery Protocals

Authors: Clark D, Joannides A, Ibrahim Abdallah O, Olufemi Adeleye A, Hafid Bajamal, Bashford T, Bhebhe, Biluts H, Budohoska N, Budohoski K, Cherian I, Marklund N, Fernandez Mendez R, Figaji T, Kumar Gupta D, Iaccarino C, Ilunga A, Joseph M, Khan T, Laeke T, Waran V, Park K, Rosseau G, Rubiano A, Saleh Y, Shabani HK, Smith B, Sichizya K, Tewari M, Tirsit A, Thu M, Tripathi M, Trivedi R, Villar S, Devi Bhagavatula I, Servadei F, Menon D, Kolias A, Hutchinson P; Global Neurotrauma Outcomes Study (GNOS) collaborative.
Region / country: Global – Colombia, Egypt, Ethiopia, India, Indonesia, Italy, Malaysia, Nepal, Nigeria, Pakistan, South Africa, Sweden, Tanzania, United Kingdom, United States of America, Zambia
Speciality: Emergency surgery, Neurosurgery, Trauma surgery

Traumatic brain injury (TBI) accounts for a significant amount of death and disability worldwide and the majority of this burden affects individuals in low-and-middle income countries. Despite this, considerable geographical differences have been reported in the care of TBI patients. On this background, we aim to provide a comprehensive international picture of the epidemiological characteristics, management and outcomes of patients undergoing emergency surgery for traumatic brain injury (TBI) worldwide. The Global Neurotrauma Outcomes Study (GNOS) is a multi-centre, international, prospective observational cohort study. Any unit performing emergency surgery for TBI worldwide will be eligible to participate. All TBI patients who receive emergency surgery in any given consecutive 30-day period beginning between 1st of November 2018 and 31st of December 2019 in a given participating unit will be included. Data will be collected via a secure online platform in anonymised form. The primary outcome measures for the study will be 14-day mortality (or survival to hospital discharge, whichever comes first). Final day of data collection for the primary outcome measure is February 13th. Secondary outcome measures include return to theatre and surgical site infection. This project will not affect clinical practice and has been classified as clinical audit following research ethics review. Access to source data will be made available to collaborators through national or international anonymised datasets on request and after review of the scientific validity of the proposed analysis by the central study team.

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25. OPERATIVE TREATMENT OF TRAUMATIC SPINAL INJURIES IN TANZANIA: SURGICAL MANAGEMENT, NEUROLOGIC OUTCOMES, AND TIME TO SURGERY

Global Spine Journal

Authors: Juma Magogo, MD, MMED , Albert Lazaro, MD , Mechris Mango, MD, MMED , Scott L. Zuckerman, MD, MPH , Andreas Leidinger, MD , Salim Msuya, MD , Nicephorus Rutabasibwa, MD , Hamisi K. Shabani, MD, PhD , and Roger Hartl, MD
Region / country: Eastern Africa – Tanzania
Speciality: Neurosurgery, Trauma and orthopaedic surgery, Trauma surgery

Objective:
Little is known about operative management of traumatic spinal injuries (TSI) in low- and middle-income countries (LMIC). In patients undergoing surgery for TSI in Tanzania, we sought to (1) determine factors involved in the operative decision-making process, specifically implant availability and surgical judgment; (2) report neurologic outcomes; and (3) evaluate time to surgery.
Methods:
All patients from October 2016 to June 2019 who presented with TSI and underwent surgical stabilization. Fracture type, operation, neurologic status, and time-to-care was collected.
Results:
Ninety-seven patients underwent operative stabilization, 23 (24%) cervical and 74 (77%) thoracic/lumbar. Cervical operations included 4 (17%) anterior cervical discectomy and fusion with plate, 7 (30%) anterior cervical corpectomy with tricortical iliac crest graft and plate, and 12 (52%) posterior cervical laminectomy and fusion with lateral mass screws. All 74 (100%) of thoracic/lumbar fractures were treated with posterolateral pedicle screws. Short-segment fixation was used in 86%, and constructs often ended at an injured (61%) or junctional (62%) level. Sixteen (17%) patients improved at least 1 ASIA grade. The sole predictor of neurologic improvement was faster time from admission to surgery (odds ratio = 1.04, P = .011, 95%CI = 1.01-1.07). Median (range) time in days included: injury to admission 2 (0-29), admission to operating room 23 (0-81), and operating room to discharge 8 (2-31).
Conclusions:
In a cohort of LMIC patients with TSI undergoing stabilization, the principle driver of operative decision making was cost of implants. Faster time from admission to surgery was associated with neurologic improvement, yet significant delays to surgery were seen due to patients' inability to pay for implants. Several themes for improvement emerged: early surgery, implant availability, prehospital transfer, and long-term follow-up.

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26. AVAILABILITY, PROCUREMENT, TRAINING, USAGE, MAINTENANCE AND COMPLICATIONS OF ELECTROSURGICAL UNITS AND LAPAROSCOPIC EQUIPMENT IN 12 AFRICAN COUNTRIES

Bjs Open

Authors: Oosting RM, Wauben LS, Madete JK, Groen RS, Dankelman J
Region / country: Central Africa, Eastern Africa, Southern Africa – Burundi, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe
Speciality: General surgery, Other, Surgical Education

Background: Strategies are needed to increase the availability of surgical equipment in low- and middle-income countries (LMICs). This study was undertaken to explore the current availability, procurement, training, usage, maintenance and complications encountered during use of electrosurgical units (ESUs) and laparoscopic equipment.
Methods: A survey was conducted among surgeons attending the annual meeting of the College of Surgeons of East, Central and Southern Africa (COSECSA) in December 2017 and the annual meeting of the Surgical Society of Kenya (SSK) in March 2018. Biomedical equipment technicians (BMETs) were surveyed and maintenance records collected in Kenya between February and March 2018.
Results: Among 80 participants, there were 59 surgeons from 12 African countries and 21 BMETs from Kenya. Thirty-six maintenance records were collected. ESUs were available for all COSECSA and SSK surgeons, but only 49 per cent (29 of 59) had access to working laparoscopic equipment. Reuse of disposable ESU accessories and difficulties obtaining carbon dioxide were identified. More than three-quarters of surgeons (79 per cent) indicated that maintenance of ESUs was available, but only 59 per cent (16 of 27) confirmed maintenance of laparoscopic equipment at their centre.
Conclusion: Despite the availability of surgical equipment, significant gaps in access to maintenance were apparent in these LMICs, limiting implementation of open and laparoscopic surgery.

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27. DELIVERY MODE FOR PROLONGED, OBSTRUCTED LABOUR RESULTING IN OBSTETRIC FISTULA: A RETROSPECTIVE REVIEW OF 4396 WOMEN IN EAST AND CENTRAL AFRICA

Bjog: An International Journal Of Obstetrics And Gynaecology

Authors: CJ Ngongo, TJIP Raassen, L Lombard, J van Roosmalen, S Weyers, M Temmerman
Region / country: Central Africa, Eastern Africa – Ethiopia, Kenya, Malawi, Rwanda, Somalia, South Sudan, Tanzania, Uganda, Zambia
Speciality: Obstetrics and Gynaecology

Objective: To evaluate the mode of delivery and stillbirth rates over time among women with obstetric fistula.
Design: Retrospective record review.
Setting: Tanzania, Uganda, Kenya, Malawi, Rwanda, Somalia, South Sudan, Zambia and Ethiopia.
Population: A total of 4396 women presenting with obstetric fistulas for repair who delivered previously in facilities between 1990 and 2014.
Methods: Retrospective review of trends and associations between mode of delivery and stillbirth, focusing on caesarean section (CS), assisted vaginal deliveries and spontaneous vaginal deliveries.
Main outcome measures: Mode of delivery, stillbirth.
Results: Out of 4396 women with fistula, 3695 (84.1%) delivered a stillborn baby. Among mothers with fistula giving birth to a stillborn baby, the CS rate (overall 54.8%, 2027/3695) rose from 45% (162/361) in 1990-94 to 64% (331/514) in 2010-14. This increase occurred at the expense of assisted vaginal delivery (overall 18.3%, 676/3695), which declined from 32% (115/361) to 6% (31/514).
Conclusions: In Eastern and Central Africa, CS is increasingly performed on women with obstructed labour whose babies have already died in utero. Contrary to international recommendations, alternatives such as vacuum extraction, forceps and destructive delivery are decreasingly used. Unless uterine rupture is suspected, CS should be avoided in obstructed labour with intrauterine fetal death to avoid complications related to CS scars in subsequent pregnancies. Increasingly, women with obstetric fistula add a history of unnecessary CS to their already grim experiences of prolonged, obstructed labour and stillbirth.

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