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INDEX COLLECTIONS GLOBAL ANAESTHESIA 2020

INTERACTIVE PDF SERIES

An annual literature search of open access, scientific articles related to global anaesthesia

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1. ASSESSMENT OF ANESTHESIA CAPACITY IN PUBLIC SURGICAL HOSPITALS IN GUATEMALA

Anesthesia And Analgesia

Authors: Zha, Yuanting; Truché, Paul; Izquierdo, Erick; Zimmerman, Kathrin; de Izquierdo, Sandra; Lipnick, Michael S; Law, Tyler J.; Gelb, Adrian W.; Evans, Faye M.
Region / country: Central America – Guatemala
Speciality: Anaesthesia, Health policy

BACKGROUND:
International standards for safe anesthetic care have been developed by the World Federation of Societies of Anaesthesiologists (WFSA) and the World Health Organization (WHO). Whether these standards are met is unknown in many nations, including Guatemala, a country with universal health coverage. We aimed to establish an overview of anesthesia care capacity in public surgical hospitals in Guatemala to help guide public sector health care development.
METHODS:
In partnership with the Guatemalan Ministry of Public Health and Social Assistance (MSPAS), a national survey of all public hospitals providing surgical care was conducted using the WFSA anesthesia facility assessment tool (AFAT) in 2018. Each facility was assessed for infrastructure, service delivery, workforce, medications, equipment, and monitoring practices. Descriptive statistics were calculated and presented.
RESULTS:
Of the 46 public hospitals in Guatemala in 2018, 36 (78%) were found to provide surgical care, including 20 district, 14 regional, and 2 national referral hospitals. We identified 573 full-time physician surgeons, anesthesiologists, and obstetricians (SAO) in the public sector, with an estimated SAO density of 3.3/100,000 population. There were 300 full-time anesthesia providers working at public hospitals. Physician anesthesiologists made up 47% of these providers, with an estimated physician anesthesiologist density of 0.8/100,000 population. Only 10% of district hospitals reported having an anesthesia provider continuously present intraoperatively during general or neuraxial anesthesia cases. No hospitals reported assessing pain in the immediate postoperative period. While the availability of some medications such as benzodiazepines and local anesthetics was robust (100% availability across all hospitals), not all hospitals had essential medications such as ketamine, epinephrine, or atropine. There were deficiencies in the availability of essential equipment and basic intraoperative monitors, such as end-tidal carbon dioxide detectors (17% availability across all hospitals). Postoperative care and access to resuscitative equipment, such as defibrillators, were also lacking.
CONCLUSIONS:
This first countrywide, MSPAS-led assessment of anesthesia capacity at public facilities in Guatemala revealed a lack of essential materials and personnel to provide safe anesthesia and surgery. Hospitals surveyed often did not have resources regardless of hospital size or level, which may suggest multiple factors preventing availability and use. Local and national policy initiatives are needed to address these deficiencies.

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2. 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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3. ASSESSMENT OF DIAGNOSTICS CAPACITY IN HOSPITALS PROVIDING SURGICAL CARE IN TWO LATIN AMERICAN STATES

Eclinical Medicine

Authors: Lina Roa, Ellie Moeller, Zachary Fowler, Rodrigo Vaz Ferreira, Sebastian Mohar, Tarsicio Uribe-Leitz, Aline Gil Alves Guilloux, Alejandro Mohar, Robert Riviello, John G Meara, Jose Emerson dos Santos Souza,Valeria Macias
Region / country: South America – Brazil, Mexico
Speciality: Anaesthesia, General surgery, Obstetrics and Gynaecology

Background
Diagnostic services are an essential component of high-quality surgical, anesthesia and obstetric (SAO) care. Efforts to scale up SAO care in Latin America have often overlooked diagnostics capacity. This study aims to analyze the capacity of diagnostic services, including radiology, pathology, and laboratory medicine, in hospitals providing SAO care in the states of Chiapas, Mexico and Amazonas, Brazil.
Methods
A stratified cross-sectional evaluation of diagnostic capacity in hospitals performing surgery in Chiapas and Amazonas was performed using the Surgical Assessment Tool (SAT). National data sources were queried for indicators of diagnostics capacity in terms of workforce, infrastructure and diagnosis utilization. Fisher's exact tests and chi-square tests were used to compare categorical variables between the private and public sector in Chiapas while descriptive statistics are used to compare Amazonas and Chiapas.
Findings
In Chiapas, 53% (n = 17) of public and 34% (n = 20) of private hospitals providing SAO care were assessed. More private hospitals than public hospitals could always provide x-rays (35% vs 23.5%) and ultrasound (85% vs 47.1%). However neither sector could consistently perform basic laboratory testing such as complete blood counts (70.6% public, 65% private). In Amazonas, 30% (n = 18) of rural hospitals were surveyed. Most had functioning x-ray machine (77.8%) and ultrasound (55.6%). The majority of hospitals could provide complete blood count (66.7%) but only one hospital (5.6%) could always perform an infectious panel. Both Chiapas and Amazonas had dramatically fewer diagnostic practitioners per capita in each state compared to the national average capacity.
Interpretation
Facilities providing SAO care in low-resource states in Mexico and Brazil often lack functioning diagnostics services and workforce. Scale-up of diagnostic services is essential to improve SAO care and should occur with emphasis on equitable and adequate resource allocation.

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4. CROSS-SECTIONAL ANALYSIS TRACKING WORKFORCE DENSITY IN SURGERY, ANESTHESIA, AND OBSTETRICS AS AN INDICATOR OF PROGRESS TOWARD IMPROVED GLOBAL SURGICAL ACCESS

International Journal Of Surgery: Global Health

Authors: Megan E. Bouchard, Jeanine Justiniano, Dominique Vervoort, Julian Gore-Booth, Adupa Emmanuel, Monica Langer
Region / country: Global
Speciality: Anaesthesia, General surgery, Health policy, Obstetrics and Gynaecology

Introduction: Safe surgical care, including anesthesia, obstetrics, and trauma, is an essential component of a functional health system, yet is lacking in much of the world. One indicator of surgical access is the number of specialist surgeons, anesthesiologists, and obstetricians (SAO) per 100,000 population, but global progress reaching threshold SAO density (SAOD) is unknown. This study measured SAOD change/trajectory and highlighted components of workforce expansion.
Methods: SAOD in 2019 was captured utilizing publicly available medical licensing data for a convenience sample of 21 countries. Projected 2030 SAOD were estimated by extrapolating annual changes since 2015. Ugandan medical students were surveyed regarding postgraduate plans and SAO training availability. Workforce contribution by nonphysician surgical and anesthetic providers was measured in Sierra Leone.
Results: Three low-income countries (LICs), 4 lower middle-income countries (L-MICs), 7 upper middle-income countries (UMICs), and 7 high-income countries (HICs) were included. Overall SAOD increased since 2015. The average 2019 SAOD was 1.16±0.81 (LICs), 3.19±1.92 (L-MICs), 20.98±12.55 (UMICs), and 44.04±12.41 (HICs). The projected 2030 SAOD in LICs and L-MICs remains below 20. In Uganda, 144 specialist SAO training positions and practice preferences predict an inadequate future workforce. In Sierra Leone, nonphysician providers contributed a 6-fold increase in the surgical workforce, though remains inadequate.
Conclusions: Despite incremental positive changes since 2015, the current SAOD trajectory is inadequate to realize 2030 access goals. Increased training and retention of specialists and nonphysician providers are necessary to address this critical deficit.

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5. SIMULATOR-BASED ULTRASOUND TRAINING FOR IDENTIFICATION OF ENDOTRACHEAL TUBE PLACEMENT IN A NEONATAL INTENSIVE CARE UNIT USING POINT OF CARE ULTRASOUND

Bmc Medical Education

Authors: Khushboo Qaim Ali, Sajid Bashir Soofi, Ali Shabbir Hussain, Uzair Ansari, Shaun Morris, Mark Oliver Tessaro, Shabina Ariff & Hasan Merali
Region / country: Southern Asia – Pakistan
Speciality: Anaesthesia, Paediatric surgery, Surgical Education

Background
Simulators are an extensively utilized teaching tool in clinical settings. Simulation enables learners to practice and improve their skills in a safe and controlled environment before using these skills on patients. We evaluated the effect of a training session utilizing a novel intubation ultrasound simulator on the accuracy of provider detection of tracheal versus esophageal neonatal endotracheal tube (ETT) placement using point-of-care ultrasound (POCUS). We also investigated whether the time to POCUS image interpretation decreased with repeated simulator attempts.
Methods
Sixty neonatal health care providers participated in a three-hour simulator-based training session in the neonatal intensive care unit (NICU) of Aga Khan University Hospital (AKUH), Karachi, Pakistan. Participants included neonatologists, neonatal fellows, pediatric residents and senior nursing staff. The training utilized a novel low-cost simulator made with gelatin, water and psyllium fiber. Training consisted of a didactic session, practice with the simulator, and practice with intubated NICU patients. At the end of training, participants underwent an objective structured assessment of technical skills (OSATS) and ten rounds of simulator-based testing of their ability to use POCUS to differentiate between simulated tracheal and esophageal intubations.
Results
The majority of the participants in the training had an average of 7.0 years (SD 4.9) of clinical experience. After controlling for gender, profession, years of practice and POCUS knowledge, linear mixed model and mixed effects logistic regression demonstrated marginal improvement in POCUS interpretation over repeated simulator testing. The mean time-to-interpretation decreased from 24.7 (SD 20.3) seconds for test 1 to 10.1 (SD 4.5) seconds for Test 10, $p < 0.001$. There was an average reduction of 1.3 s ($\beta = -1.3$; 95% CI: -1.66 to -1.0) in time-to-interpretation with repeated simulator testing after adjusting for the covariates listed above.
Conclusion
We found a three-hour simulator-based training session had a significant impact on technical skills and performance of neonatal health care providers in identification of ETT position using POCUS. Further research is needed to examine whether these skills are transferable to intubated newborns in various health settings.

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6. BENEFITS AND BARRIERS TO INCREASING REGIONAL ANESTHESIA IN RESOURCE-LIMITED SETTINGS

Local And Regional Anesthesia

Authors: Lena Ebba Dohlman, Andrew Kwikiriza, Odinakachukwu Ehie
Region / country: Global
Speciality: Anaesthesia, Health policy, Surgical Education

Safe and accessible surgical and anesthetic care is critically limited for over half of the world's population, particularly in Sub-Saharan African and Southeast Asian countries. Increasing the use of regional anesthesia in these areas has potential benefits regarding access, safety, and cost-effectiveness. Perioperative anesthesia-related mortality is significantly higher in resource-limited countries and every effort should be made to encourage the use of anesthetic techniques in these countries that are safest under the present conditions. Studies from Sub-Saharan Africa, although limited in number, have shown a lower risk of death with regional compared to general anesthesia. Regional anesthesia has the further benefit of decreasing the risk of COVID-19 spread to healthcare providers by avoiding the aerosol-generating procedures that occur during general anesthesia. Neuraxial regional anesthesia is relatively easy to teach and perform and is considered the anesthetic of choice for surgeries below the umbilicus in resource-limited settings due to its safety, efficacy, and low cost. Although regional anesthesia has multiple potential advantages, education and training of anesthetic providers in low-and-middle-income countries (LMIC) are a significant barrier to growth. Anesthesia professionals, especially in Sub-Saharan Africa, are often poorly supported and undervalued, and recruitment and retention of adequate numbers of trained practitioners are a continuing problem. Greater use of regional anesthesia could be one way to safely increase anesthesia access and simultaneously create value and enthusiasm for the field. Deficits in anesthesia infrastructure, equipment, and drugs also limit anesthesia capacity in low-and middle-income countries. Ultrasound-guided regional anesthesia may be helpful in improving access to safe and reliable anesthesia in low-resource countries as it continues to become more user-friendly, durable, and affordable.

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7. THE ROLE OF MEDICAL EQUIPMENT IN THE SPREAD OF NOSOCOMIAL INFECTIONS: A CROSS-SECTIONAL STUDY IN FOUR TERTIARY PUBLIC HEALTH FACILITIES IN UGANDA
Bmc Public Health

Authors: Robert T. Ssekitoleko, Solomon Oshabaheebwa, Ian G. Munabi, Martha S. Tusabe, C. Namayega, Beryl A. Ngabirano, Brian Matovu, Julius Mugaga, William M. Reichert & Moses L. Joloba
Region / country: Eastern Africa – Uganda
Speciality: Anaesthesia, Health policy

Background
With many medical equipment in hospitals coming in direct contact with healthcare workers, patients, technicians, cleaners and sometimes care givers, it is important to pay close attention to their capacity in harboring potentially harmful pathogens. The goal of this study was to assess the role that medical equipment may potentially play in hospital acquired infections in four public health facilities in Uganda.
Methods
A cross-sectional study was conducted from December 2017 to January 2018 in four public health facilities in Uganda. Each piece of equipment from the neonatal department, imaging department or operating theatre were swabbed at three distinct points: a location in contact with the patient, a location in contact with the user, and a remote location unlikely to be contacted by either the patient or the user. The swabs were analyzed for bacterial growth using standard microbiological methods. Seventeen bacterial isolates were randomly selected and tested for susceptibility/resistance to common antibiotics. The data collected analyzed in STATA version 14.
Results
A total of 192 locations on 65 equipment were swabbed, with 60.4% of these locations testing positive (116/192). Nearly nine of ten equipment (57/65) tested positive for contamination in at least one location, and two out of three equipment (67.7%) tested positive in two or more locations. Of the 116 contaminated locations 52.6% were positive for Bacillus Species, 14.7% were positive for coagulase negative staphylococcus, 12.9% (15/116) were positive for E. coli, while all other bacterial species had a pooled prevalence of 19.8%. Interestingly, 55% of the remote locations were contaminated compared to 66% of the user contacted locations and 60% of the patient contacted locations. Further, 5/17 samples were resistant to at least three of the classes of antibiotics tested including penicillin, glycylcycline, tetracycline, trimethoprim sulfamethoxazole and urinary anti-infectives.
Conclusion
These results provides strong support for strengthening overall disinfection/sterilization practices around medical equipment use in public health facilities in Uganda. There’s also need for further research to make a direct link to the bacterial isolates identified and cases of infections recorded among patients in similar settings.

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8. ESTABLISHMENT OF A HIGH-DEPENDENCY UNIT IN MALAWI
Bmj Global Health

Authors: Ben Morton, Ndaziona Peter Banda, Edna Nsomba, Clara Ngoliwa, Sandra Antoine, Joel Gondwe, Felix Limbani, Marc Yves Romain Henrion, James Chirombo, Tim Baker, Patrick Kamalo, Chimota Phiri, Leo Masamba, Tamara Phiri, Jane Mallewa, Henry Charles Mwandumba, Kwazizira Samson Mndolo, Stephen Gordon, Jamie Rylance
Region / country: Southern Africa – Malawi
Speciality: Anaesthesia

Adults admitted to hospital with critical illness are vulnerable and at high risk of morbidity and mortality, especially in sub-Saharan African settings where resources are severely limited. As life expectancy increases, patient demographics and healthcare needs are increasingly complex and require integrated approaches. Patient outcomes could be improved by increased critical care provision that standardises healthcare delivery, provides specialist staff and enhanced patient monitoring and facilitates some treatment modalities for organ support. In Malawi, we established a new high-dependency unit within Queen Elizabeth Central Hospital, a tertiary referral centre serving the country's Southern region. This unit was designed in partnership with managers, clinicians, nurses and patients to address their needs. In this practice piece, we describe a participatory approach to design and implement a sustainable high-dependency unit for a low-income sub-Saharan African setting. This included: prospective agreement on remit, alignment with existing services, refurbishment of a dedicated physical space, recruitment and training of specialist nurses, development of context-sensitive clinical standard operating procedures, purchase of appropriate and durable equipment and creation of digital clinical information systems. As the global COVID-19 pandemic unfolded, we accelerated unit opening in anticipation of increased clinical requirement and describe how the high-dependency unit responded to this demand.

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9. THE ROLE OF NON-GOVERNMENTAL ORGANIZATIONS IN ADVANCING THE GLOBAL SURGERY AND ANESTHESIA GOALS

Journal Of Public Health And Emergency

Authors: Desmond T. Jumbam, Libby Durnwald, Ruben Ayala, Ulrick Sidney Kanmounye
Region / country: Global
Speciality: Anaesthesia, Health policy

Non-governmental organizations (NGOs) are indispensable to social and economic development, particularly in states with limited resources or poor governance. With about five billion people globally lacking access to safe, timely and affordable surgical and anesthesia care, mostly in low-income and middle-income countries (LMICs), NGOs can play a critical role in meeting this significant surgical need and advancing the global surgery and anesthesia goals set by the Lancet Commission on Global Surgery in alignment with the Sustainable Development Goals (SDGs). Surgical-NGOs (s-NGOs) have historically and continue to play a vital role in reducing the surgical burden globally, providing at least 3 million surgical procedures annually in LMICs. They have done this primarily through service delivery by employing temporary platforms such as short-term surgical trips and self-contained surgical platforms or through the setting up of specialized hospitals. With the advent of the SDGs, s-NGOs are increasingly investing in strengthening local health systems by supporting various dimensions of the health systems building blocks. Health systems strengthening interventions by s-NGOs have primarily focused on the training of skilled local surgical workforce (pre-service and in-service) and investing in health infrastructure through equipment and supplies donations to capacitate local health facilities to provide high-quality sustainable surgical and anesthesia care. Despite these laudable efforts, s-NGOs have not been without challenges and criticism especially around the cost-effectiveness, sustainability, equity and quality of care provided. In this article, we review the current landscape of s-NGOs and the challenges they face. We also examine the roles of s-NGOs in advancing the global surgery and anesthesia goals and SDGs in light of the ongoing COVID-19 pandemic.

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10. WE ASKED THE EXPERTS: GLOBAL SURGERY—SEEING BEYOND THE SILO

World Journal Of Surgery

Authors: Grace Umutesi, Justine Davies, Bethany L. Hedt-Gauthier
Region / country: Global
Speciality: Anaesthesia, Obstetrics and Gynaecology

The COVID-19 pandemic requires comprehensive health systems response, with 14% of infected people developing severe sickness leading to hospitalization and 5% admitted to an intensive care unit [1]. The need for oxygen and intensive care means that perhaps for the first time, surgery and anesthesia find themselves playing a central role in a global health emergency; but is global surgery integrated enough to the wider global health community to have an impact?

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11. RESULTS FROM THE FIRST AUDIT OF AN INTENSIVE CARE UNIT IN BOTSWANA

Southern African Journal Of Critical Care

Authors: A O MilanI, M CoxII, K MolebatsiIII
Region / country: Southern Africa – South Africa
Speciality: Anaesthesia

BACKGROUND: Botswana is an economically stable middle-income country with a developing health system and a large HIV and infectious disease burden. Princess Marina Hospital (PMH) is the largest referral and teaching hospital with a mixed eight-bed intensive care unit (ICU
OBJECTIVES: To conduct an audit of PMH ICU in order to investigate major admission categories and quantify morbidity and mortality figures using a validated scoring system for quality improvement, education and planning purposes
METHODS: PMH medical records and laboratory data were accessed to record demographics, referral patterns, diagnoses, HIV status, Acute Physiologic Assessment and Chronic Health Evaluation (APACHE) II scores and mortality rates
RESULTS: A total of 182 patients >14 years of age were enrolled over a 12-month period from April 2017 – March 2018. Patient’s mean age was 42.9 years, males represented 56.6% of the study population and surgical conditions accounted for 46% of diagnostic categories. Sixty percent of the patients were HIV-negative and 12% had no HIV status recorded. The mean APACHE II score was 25 and the mean length of stay in ICU was 10.3 days. Higher APACHE II scores were associated with higher mortality regardless of HIV status. The overall mortality was 42.8% and there was no difference in mortality rates in ICU or at 30 days between HIV-positive and HIV-negative ICU patient groups
CONCLUSIONS: The PMH ICU population is young with a high mean APACHE II score, significant surgical and HIV burdens and a high mortality rate. PMH ICU has significant logistical challenges making comparison with international ICUs challenging, and further research is warranted

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12. SIMULATION BASED TRAINING IN BASIC LIFE SUPPORT FOR MEDICAL AND NON-MEDICAL PERSONNEL IN RESOURCE LIMITED SETTINGS

International Journal Of Anesthesia And Clinical Medicine

Authors: Christopher Nyirenda, Samuel Phiri, Boniface Kawimbe
Region / country: Southern Africa – Zambia
Speciality: Anaesthesia

Medical and non-medical personnel commonly encounter victims of life threatening injuries inflicted by various causes in diverse settings. More than 90% of global deaths and disability adjusted life-years (DALYs) lost because of injuries reportedly occur in low-income and middle-income countries (LMICs). The degree of readiness and competence to manage victims of accidents is likely to vary among individual care givers for knowledge, skill and confidence which would also depend on their training status. It would thus be justified that training in basic life support and other emergency clinical skills be administered to enhance competences in resuscitating the accident victims. Whatever the scale of a mass casualty incident, the first response will be carried out by members of the local community-not just health care staff and designated emergency workers,but also many ordinary citizens. Therefore, both medical and non-medical personnel should be targeted to receive training in basic life support (BLS). In medical training, the traditional (didactic) approach has been suggested to be an efficient and well-experienced training method while with the advances in technology the use of simulation-based medical training (SBMT) is increasing since SBMT provides a safe and supportive educational setting, so that students can improve their performance without causing adverse clinical outcomes. Similarly, the use of simulation based training in BLS would not only reduce the procedural associated risks but also benefit more participants from the public domain than would be the case if the training was conducted on human subjects. Compared with the developed world set-up simulation based training in resource constrained settings may not be that well established. This paper will therefore seek to examine the role of medical simulation as a necessary advancement and supplementary method of training in basic life support for medical and non-medical personnel in resource limited settings

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13. OUTCOMES OF PAEDIATRIC PATIENTS VENTILATED IN A HIGH-CARE AREA OUTSIDE AN INTENSIVE CARE UNIT

South African Medical Journal

Authors: S Cawood, S Naidoo, G Okudo, S Velaphi, C Verwey
Region / country: Southern Africa – South Africa
Speciality: Anaesthesia, Paediatric surgery

Background. Limited availability of paediatric intensive care beds in the public sector is a major challenge in South Africa. It often results in patients being ventilated in a high-care area (HCA) outside an intensive care setting. The outcomes of paediatric patients ventilated outside a paediatric intensive care unit (ICU) are not well documented.
Objectives. To describe characteristics and outcomes of patients ventilated in a paediatric HCA.
Methods. A retrospective chart review of children (0 – 16 years) requiring mechanical ventilation in the HCA at Chris Hani Baragwanath Academic Hospital, Johannesburg, between 1 February and 31 October 2015 was performed.
Results. A total of 214 patients required mechanical ventilation during the study period. Fifty-four percent were male and 91.1% were HIV-negative. The most common diagnoses were acute lower respiratory tract infections (59.3% of the post-neonatal group, 28.8% of the neonatal group) and sepsis (6.8% of the post-neonatal group, 28.8% of the neonatal group). The ultimate rate of acceptance to an ICU was 69.0%. Only 41.6% of cases referred to an ICU were initially accepted, with limited bed availability being the main reason for refusal. Patients with respiratory illnesses were more likely and those with neurological illness less likely to be accepted to an ICU. Patients with low-risk diagnoses were more likely to be accepted than those with very high-risk diagnoses. The overall mortality rate was 32.2%, with 52.2% of these deaths occurring in the HCA. Patients aged 1 – 5 years had the highest mortality rate (48.0%). Lower respiratory tract infections (36.8%) and sepsis (20.6%) were the main causes of death. The mortality rate of suitable ICU candidates in the HCA was higher than that in an ICU (33.3% v. 24.3%). The standardised mortality ratio (SMR), as predicted by the Paediatric Index of Mortality 3 score, for all patients who died in the HCA was 3.3, while the SMR for patients who died in an ICU was 1.3. The odds ratio for mortality of suitable candidates ventilated in the HCA v. patients who were ventilated in an ICU was 1.80 (95% confidence interval 1.39 – 6.03).
Conclusions. Although a reasonable number of paediatric patients ventilated in an HCA survive, survival is lower than in those ventilated in an ICU. However, offering life-supporting therapies in an HCA may offer benefit where ICU care is unavailable. Emphasis needs to be placed on improving access to ICU care as well as optimising the use of available resources.

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14. TRAUMATIC BRAIN INJURY IN MUMBAI: A SURVEY OF PROVIDERS ALONG THE CARE CONTINUUM

Asian Journal Of Neurosurgery

Authors: Saksham Gupta, Monty Khajanchi, Harris Solomon, Nakul P. Raykar, Blake C. Alkire, Nobhojit Roy, Kee B. Park, and Vineet Kumar
Region / country: South-eastern Asia – India
Speciality: Anaesthesia, Neurosurgery, Trauma and orthopaedic surgery, Trauma surgery

Introduction:
Traumatic brain injury (TBI) represents a significant burden of a global disease, especially in low- and middle-income countries (LMICs) such as India. Efforts to curb the impact of TBI require an appreciation of local factors related to this disease and its treatment.
Methods:
Semi-structured qualitative interviews were administered to paramedics, anesthesiologists, general surgeons, and neurosurgeons in locations throughout Mumbai from April to May 2018. A thematic analysis with an iterative coding was used to analyze the data. The primary objective was to identify provider-perceived themes related to TBI care in Mumbai.
Results:
A total of 50 participants were interviewed, including 17 paramedics, 15 anesthesiologists, 9 general surgeons, and 9 neurosurgeons who were involved in caring for TBI patients. The majority of physicians interviewed discussed their experiences in public sector hospitals (82%), while 12% discussed private sector hospitals and 6% discussed both. Four major themes emerged: Workforce, equipment, financing care, and the family and public role. These themes were often discussed in the context of their effects on increasing or decreasing complications and delays. Participants developed adaptations when managing shortcomings in these thematic areas. These adaptations included teamwork during workforce shortages and resource allocation when equipment was limited among others.
Conclusions:
Workforce, equipment, financing care, and the family and public role were identified as major themes in the care for TBI in Mumbai. These thematic elements provide a framework to evaluate and improve care along the care spectrum for TBI. Similar frameworks should be adapted to local contexts in urbanizing cities in LMICs.

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15. FOREIGN BODY INGESTION IN CHILDREN PRESENTING TO A TERTIARY PAEDIATRIC CENTRE IN SOUTH AFRICA: A RETROSPECTIVE ANALYSIS FOCUSING ON BATTERY INGESTION

South African Medical Journal

Authors: J A Chabilall, J Thomas, R Hofmeyr
Region / country: Southern Africa – South Africa
Speciality: Anaesthesia, Paediatric surgery

Background. Ingestion of foreign bodies remains a frequent reason for presentation to paediatric emergency departments worldwide. Among the variety of objects ingested, button batteries are particularly harmful owing to their electrochemical properties, which can cause extensive injuries if not diagnosed and treated rapidly. International trends show an increasing incidence of button battery ingestion, leading to concern that this pattern may be occurring in South Africa. Limited local data on paediatric foreign body ingestion have been published.
Objectives. To assess battery ingestion rates in a tertiary paediatric hospital. We hypothesised that the incidence has increased, in keeping with international trends. Secondary objectives included describing admission rates, requirements for anaesthesia and surgery, and promoting awareness of the problems associated with battery ingestion.
Methods. We performed a retrospective, descriptive analysis of the Red Cross War Memorial Children's Hospital trauma database, including all children under 13 years of age seen between 1 January 2010 and 31 December 2015 with suspected ingestion of a foreign body. The ward admissions database was then examined to find additional cases in which children were admitted directly. After exclusion of duplicate records, cases were classified by type of foreign body, management, requirement for admission, anaesthesia and surgery. Descriptive statistics were used to analyse the data in comparison with previous studies published from this database.
Results. Patient age and gender patterns matched the literature, with a peak incidence in children under 2 years of age. Over the 6-year period, 180 patients presented with food foreign bodies, whereas 497 objects were classified as non-food. After exclusion of misdiagnosed cases, the remaining 462 objects were dominated by coins (44.2%). Batteries were the causative agent in 4.8% (22/462). Although the subtypes of batteries were not reliably recorded, button batteries accounted for at least 64% (14/22). Most children who ingested batteries presented early, but more required admission, anaesthesia and surgery than children who ingested other forms of foreign body.
Conclusions. The study demonstrated that the local incidence of button battery ingestion may be increasing, although data are still limited.Admission, anaesthesia and surgery rates for batteries were higher in this cohort than for all other foreign bodies. As button batteries can mimic coins, with much more dire consequences on ingestion, our ability to expedite diagnosis and management hinges on a high index of suspicion. It is imperative to increase awareness among healthcare workers and parents.

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16. USING CRITICAL CARE PHYSICIANS TO DELIVER ANESTHESIA AND BOOST SURGICAL CASELOAD IN AUSTERE ENVIRONMENTS: THE CRITICAL CARE GENERAL ANESTHESIA SYLLABUS (CC GAS)

Heliyon

Authors: Quincy K.Tran, Natalie M.Mark, Lia I.Losonczy, Michael T.McCurdy, James H.LantryIII, Marc E.Augustin, Lovely N.Colas, Richard Skupski, Arthur S.Toth, Bhavesh M.Patel, Donald F.Zimmer, Rebecca Tracy, Mark Walsh
Region / country: Caribbean – Haiti
Speciality: Anaesthesia

Background
Despite an often severe lack of surgeons and surgical equipment, the rate-limiting step in surgical care for the nearly five billion people living in resource-limited areas is frequently the absence of safe anesthesia. During disaster relief and surgical missions, critical care physicians (CCPs), who are already competent in complex airway and ventilator management, can help address the need for skilled anesthetists in these settings.
Methods
We provided a descriptive analysis that CCPs were trained to provide safe general anesthesia, monitored anesthesia care (MAC), and spinal anesthesia using a specifically designed and simple syllabus.
Results
Six CCPs provided anesthesia under the supervision of a board-certified anesthesiologist for 58 (32%) cases of a total of 183 surgical cases performed by a surgical mission team at St. Luc Hospital in Port-au-Prince, Haiti in 2013, 2017, and 2018. There were no reported complications.
Conclusions
Given CCPs’ competencies in complex airway and ventilator management, a CCP, with minimal training from a simple syllabus, may be able to act as an anesthesiologist-extender and safely administer anesthesia in the austere environment, increasing the number of surgical cases that can be performed. Further studies are necessary to confirm our observation.

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17. OUTCOMES ASSOCIATED WITH ANAESTHETIC TECHNIQUES FOR CAESAREAN SECTION IN LOW- AND MIDDLE-INCOME COUNTRIES: A SECONDARY ANALYSIS OF WHO SURVEYS

Scientific Reports

Authors: Pisake Lumbiganon , Hla Moe , Siriporn Kamsa-Ard , Siwanon Rattanakanokchai , Malinee Laopaiboon , Chumnan Kietpeerakool , Nampet Jampathong , Monsicha Somjit , José Guilherme Cecatti , Joshua P Vogel , Ana Pilar Betran , Suneeta Mittal , Maria Regina Torloni
Region / country: Global
Speciality: Anaesthesia, Obstetrics and Gynaecology

Associations between anaesthetic techniques and pregnancy outcomes were assessed among 129,742 pregnancies delivered by caesarean section (CS) in low- and middle-income countries (LMICs) using two WHO databases. Anaesthesia was categorized as general anaesthesia (GA) and neuraxial anaesthesia (NA). Outcomes included maternal death (MD), maternal near miss (MNM), severe maternal outcome (SMO), intensive care unit (ICU) admission, early neonatal death (END), neonatal near miss (NNM), severe neonatal outcome (SNO), Apgar score <7 at 5 minutes, and neonatal ICU (NICU) admission. A two-stage approach of individual participant data meta-analysis was used to combine the results. Adjusted odds ratio (OR) with 95% confidence intervals (CIs) were presented. Compared to GA, NA were associated with decreased odds of MD (pooled OR 0.28; 95% CI 0.10, 0.78), MNM (pooled OR 0.25; 95% CI 0.21, 0.31), SMO (pooled OR 0.24; 95% CI 0.20,0.28), ICU admission (pooled OR 0.17; 95% CI 0.13, 0.22), NNM (pooled OR 0.63; 95% CI 0.55, 0.73), SNO (pooled OR 0.55; 95% CI 0.48, 0.63), Apgar score <7 at 5 minutes (pooled OR 0.35; 95% CI 0.29, 0.43), and NICU admission (pooled OR 0.53; 95% CI 0.45, 0.62). NA therefore was associated with decreased odds of adverse pregnancy outcomes in LMICs.

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18. IMPROVING QUALITY OF SURGICAL AND ANAESTHESIA CARE AT HOSPITAL LEVEL IN SUB-SAHARAN AFRICA: A SYSTEMATIC REVIEW PROTOCOL OF HEALTH SYSTEM STRENGTHENING INTERVENTIONS

Bmj Open

Authors: Nataliya Brima , Justine Davies , Andrew Jm Leather
Region / country: Central Africa, Eastern Africa, Middle Africa, Southern Africa, Western Africa
Speciality: Anaesthesia, General surgery

Introduction: Over 5 billion people in the world do not have access to safe, affordable surgical and anaesthesia care when needed. In order to improve health outcomes in patients with surgical conditions, both access to care and the quality of care need to be improved. A recent commission on high-quality health systems highlighted that poor-quality care is now a bigger barrier than non-utilisation of the health system for reducing mortality.
Aim: To carry out a systematic review to provide an evidence-based summary of hospital-based interventions associated with improved quality of surgical and anaesthesia care in sub-Saharan African countries (SSACs).
Methods and analysis: Three search strings (1) surgery and anaesthesia, (2) quality improvement hospital-based interventions and (3) SSACs will be combined. The following databases EMBASE, Global Health, MEDLINE, CINAHL, Web of Science and Scopus will be searched. Further relevant studies will be identified from national and international health organisations and publications and reference lists of all selected full-text articles. The review will include all type of original articles in English published between 2008 and 2019. Article screening, data extraction and assessment of methodological quality will be done by two reviewers independently and any disputes will be resolved by a third reviewer or team consensus. Three types of outcomes will be collected including clinical, process and implementation outcomes. The primary outcome will be mortality. Secondary outcomes will include other clinical outcomes (major and minor complications), as well as process and implementation outcomes. Descriptive statistics and outcomes will be summarised and discussed. For the primary outcome, the methodological rigour will be assessed.
Ethics and dissemination: The results will be published in a peer reviewed open access journal and presented at national and international conferences. As this is a review of secondary data no formal ethical approval is required.

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19. PERIANESTHETIC CONCERNS FOR THE NON-COVID-19 PATIENTS REQUIRING SURGERY DURING THE COVID-19 PANDEMIC OUTBREAK: AN OBSERVATIONAL STUDY

Journal Of Clinical Anesthesia

Authors: Gilles Boccara , David Cassagnol , Laurent Bargues , Thierry Guenoun , Benjamin Aubier , Ivan Goldstein , Stéphane Romano , Dan Longrois
Region / country: Western Europe – France
Speciality: Anaesthesia

The global health crisis caused by the COVID-19 virus, has being marked by a rapid spread, numerous severe respiratory cases and an elevated mortality rate [1]. It has forced World Health Organization to declare global emergency and governments to apply confinement measures and stop the scheduled medical activities [2]. Recommendations have been developed for the management of patients with COVID-19 requiring endotracheal intubation and critical cares [3]. In addition of surgical emergencies and cesarean sections, certain surgical or diagnostic procedures cannot be postponed due to the risk of unacceptable morbidity. Therefore, Health Ministries have authorized the performance of these procedures in accordance with specific rules. Data on this type of perioperative management for COVID-19 negative patients are rare.

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20. CARDIOPROTECTIVE EFFECTS OF PROPOFOL-DEXMEDETOMIDINE IN OPEN-HEART SURGERY: A PROSPECTIVE DOUBLE-BLIND STUDY

Annals Of Cardiac Anaesthesia

Authors: Ahmed Said Elgebaly, Sameh Mohamad Fathy, Ayman Ahmed Sallam, Yaser Elbarbary
Region / country: Northern Africa – Egypt
Speciality: Anaesthesia, Cardiothoracic surgery

Background
Myocardial protection in cardiac surgeries is a must and requires multimodal approaches in perioperative period to decrease and prevent the increase of myocardial oxygen demand and consumption that lead to postoperative cardiac complications including myocardial ischemia, dysfunction, and heart failure.
Study design
Prospective, controlled, randomized, double-blinded study.
Aims
This study aims to study the effect of propofol-dexmedetomidine continuous infusion cardioprotection during open-heart surgery in adult patients.
Materials and methods
Sixty adult patients of both sexes aged from 30 to 60 years old belonging to the American Society of Anesthesiologists III or IV undergoing open-heart surgery were randomly divided into two equal groups: Group P (control group) received continuous infusion of propofol at a rate of 2 mg/kg/h and 50 cc 0.9% sodium chloride solution infused at a rate of 0.4 µg/kg/h (used as a placebo) and Group PD received continuous infusion of propofol at a rate of 2 mg/kg/h and dexmedetomidine 200 µg diluted in 50 cc 0.9% sodium chloride solution infused at a rate of 0.4 µg/kg/h. Infusion for all patients started immediately preoperative till skin closure. Hemodynamic measurements of heart rate (HR), invasive mean arterial pressure, and oxygen saturation were recorded at baseline before induction of anesthesia, immediately after intubation, at skin incision, at sternotomy and every 15 min in the 1st h then every 30 min during the prebypass period then every 15 min in the 1st h then every 30 min after weaning from CPB till the end of the surgery. Serum biomarkers; cardiac troponin (cTnI) and creatine kinase-myocardial bound (CK-MB) samples were measured basally (T1), 15 min after unclamping of the aorta (T2), immediate postoperative (T3), and 24 h postoperative (T4). Intraoperative data were also recorded including the number of coronary grafts, aortic cross-clamping duration, duration of cardiopulmonary bypass (CPB), duration of surgery, and rhythm of reperfusion. Fentanyl requirement, extubation time, and length of intensive care unit (ICU) stay were also recorded for every case.
Results
There was no statistically significant differences as regard to demographic data between the studied two groups. HR and blood pressure recorded was lower in the PD group than the control group, and this difference was noted to be statistically significant. Furthermore, the PD group showed lower levels of myocardial enzymes (cTnI and CK-MB), decreased total fentanyl requirement, earlier postoperative extubation, and shorter ICU stay than the P(control) group.
Conclusion
The use of propofol-dexmedetomidine in CPB surgeries offers more cardioprotective effects than the use of propofol alone.

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21. IMPACT OF CAPNOGRAPHY ON PATIENT SAFETY IN HIGH- AND LOW-INCOME SETTINGS: A SCOPING REVIEW

British Journal Of Anaesthesia

Authors: Elliot Wollner , Maziar M Nourian , William Booth , Sophia Conover , Tyler Law , Maytinee Lilaonitkul , Adrian W Gelb , Michael S Lipnick
Region / country: Global
Speciality: Anaesthesia

Background: Capnography is universally accepted as an essential patient safety monitor in high-income countries (HICs) yet is often unavailable in low and middle-income countries (LMICs). Increasing capnography availability has been proposed as one of many potential approaches to improving perioperative outcomes in LMICs. This scoping review summarises the existing literature on the effect of capnography on patient outcomes to help prioritise interventions and guide expansion of capnography in LMICs.
Methods: We searched MEDLINE and EMBASE databases for articles published between 1980 and March 2019. Studies that assessed the impact of capnography on morbidity, mortality, or the use of airway interventions both inside and outside the operating room were included.
Results: The search resulted in 7445 unique papers, and 31 were included for analysis. Retrospective and non-randomised data suggest capnography use may improve outcomes in the operating room, ICU, and emergency department, and during resuscitation. Prospective data on capnography use for procedural sedation suggest earlier detection of hypoventilation and a reduction in haemoglobin desaturation events. No randomised studies exist that assess the impact of capnography on patient outcomes.
Conclusion: Despite widespread endorsement of capnography as a mandatory perioperative monitor, rigorous data demonstrating its impact on patient outcomes are limited, especially in LMICs. The association between capnography use and a reduction in serious airway complications suggests that closing the capnography gap in LMICs may represent a significant opportunity to improve patient safety. Additional data are needed to quantify the global capnography gap and better understand the barriers to capnography scale-up in LMICs.

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22. THE CHALLENGE OF SAFE ANESTHESIA IN DEVELOPING COUNTRIES: DEFINING THE PROBLEMS IN A MEDICAL CENTER IN CAMBODIA.

Bmc Health Services Research

Authors: Kun-ming Tao, Sann Sokha, Hong-bin Yuan
Region / country: South-eastern Asia – Cambodia, Singapore, Thailand, Vietnam
Speciality: Anaesthesia

The International Standards for a Safe Practice of Anesthesia (ISSPA) were developed on behalf of the World Federation of Societies of Anaesthesiologists and the World Health Organization. It has been recommend as an assessment tool that allows anesthetic providers in developing countries to assess their compliance and needs. This study was performed to describe the anesthesia service in one main public hospital during an 8-month medical mission in Cambodia and evaluate its anesthetic safety issues according to the ISSPA. We conduct a retrospective study involving 1953 patients at the Preah Ket Mealea hospital. Patient demographics, anesthetic techniques, and complications were reviewed according to the registers of the anesthetic services and questionnaires. The inadequacies in personnel, facilities, equipment, medications, and conduct of anesthesia drugs were recorded using a checklist based on the ISSPA. A total of 1792 patients received general and regional anesthesia in the operating room, while 161 patients receiving sedation for gastroscopy. The patients' mean age was 45.0 ± 16.6 years (range, 17-87 years). The three most common surgical procedures were abdominal (52.0%; confidence interval [CI], 49.3-54.7), orthopedic (27.6%; CI, 25.2-29.9), and urological surgery (14.7%; CI, 12.8-16.6). General anesthesia, spinal anesthesia, and brachial plexus block were performed in 54.3% (CI, 51.7-56.8), 28.2% (CI, 25.9-30.5), and 9.4% (CI, 7.9-10.9) of patients, respectively. One death occurred. Twenty-six items related to professional aspects, monitoring, and conduct of anesthesia did not meet the ISSPA-recommended standards. A lack of commonly used drugs and monitoring equipment was noted, posing major threats to the safety of anesthesia practice, especially in emergency situations. This study adds to the scarce literature on anesthesia practice in low- and middle-income countries such as Cambodia. Future medical assistance should help to strengthen these countries' inadequacies, allowing for the adoption of international standards for the safe practice of anesthesia.

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23. EFFECT OF DEXMEDETOMIDINE COMBINED WITH INHALATION OF ISOFLURANE ON OXYGENATION FOLLOWING ONE-LUNG VENTILATION IN THORACIC SURGERY

Anesthesiology And Pain Medicine

Authors: Somayeh Asri , Hamzeh Hosseinzadeh , Mahmood Eydi , Marzieh Marahem , Abbasali Dehghani , Hassan Soleimanpour
Region / country: Western Asia – Iran
Speciality: Anaesthesia, Cardiothoracic surgery

Background: One-lung ventilation (OLV) is commonly used during thoracic surgery. At this time, hypoxemia is considered one of the remarkable consequences of the anesthesia management. Hypoxic pulmonary vasoconstriction (HPV) is the defense mechanism against hypoxia.
Objectives: The aim of the present study was to investigate the effect of infusion of dexmedetomidine on improving the oxygenation during OLV among the adult patients undergoing thoracic surgery.
Methods: A total of 42 patients undergoing OLV by general anesthesia with isoflurane inhalation were randomly assigned into two groups: IV infusion of dexmedetomidine at 0.3 microgram/kg/h (DISO) and IV infusion of normal saline (NISO). Three Arterial Blood Gas (ABG) samples were obtained throughout the surgery. Hemodynamic parameters, PaO2, PaCO2, and complications at recovery phase were recorded. The collected information was analyzed using SPSS software version 22.
Results: In the dexmedetomidine group, the mean hemodynamic parameters had a significant reduction at 30 and 60 minutes following OLV. Administration of dexmedetomidine resulted in a significant increase in the PaCO2 and a reduction in the PaO2 when changing from two-lung ventilation to OLV, where PaO2 reached its maximum value within 10 minutes after OLV in the DISO group, and it began to gradually increase to the end of operation. The duration of the recovery phase, also complications at the recovery phase decreased significantly in DISO group.
Conclusions: The results of the study showed that, dexmedetomidine may improve arterial oxygenation during OLV in adult patients undergoing thoracic surgery, and can be a suitable anesthetic agent for thoracic surgery.

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24. POSTOPERATIVE PAIN MANAGEMENT IN EMERGENCY SURGERIES: A ONE-YEAR SURVEY ON PERCEPTION AND SATISFACTION AMONG SURGICAL PATIENTS

Nigerian Journal Of Surgery

Authors: AbdulGhaffar A Yunus, Euphemia M Ugwu, Yunusa Ali, Ganiyat Olagunju
Region / country: Western Africa – Nigeria
Speciality: Anaesthesia, Emergency surgery, General surgery

Background
Postoperative pain varies from an individual to individual. It also varies with types and extent of surgery. In general, postoperative pain is inadequately managed in most centers worldwide, especially in developing countries. Therefore, this study presents the perception and satisfaction of postoperative pain management in emergency surgeries.
Methods
A 1-year prospective study of the 891 patients who underwent emergency general surgeries at Ahmadu Bello University Teaching Hospital, from January to December 2018 is hereby presented. Pain scores and patient’s satisfaction toward postoperative pain management were considered at 8 and 24 h postoperatively through a predesigned questionnaire. Numeric Pain Rating Scale was used to determine pain intensity and the level of satisfaction following postoperative pain management. Student’s t-test was used to compare the pain scores and patient’s level of satisfaction of the postoperative pain management.
Results
A total of 891 patients were recruited for this study, with a mean age of 36.4 ± 8.9 years with a male-to-female ratio of 1.3:1. Postoperative pain management satisfaction score for patients (98%) who had pain 8-h postoperative period was 4.8 ± 1.6. Similarly, 96.4% of the patients who had pain 24 h postoperatively scored 2.8 ± 1.7. Majority of the patients 481 (54%) were of the American Society of Anesthesiologist physical Class II. Most of the patients underwent general surgery using the technique of general anesthesia.
Conclusion
This study indicated that the perception and level of patient’s satisfaction regarding postoperative pain management are inadequate. The health professionals and policy makers should be aware that postoperative pain management is suboptimal, as patients still have severe postoperative pain. Therefore, the need for improved postoperative pain management.

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25. POSTOPERATIVE ANALGESIC EFFECT OF INTRATHECAL DEXMEDETOMIDINE ON BUPIVACAINE SUBARACHNOID BLOCK FOR OPEN REDUCTION AND INTERNAL FIXATION OF FEMORAL FRACTURES

Nigerian Journal Of Clinical Practice

Authors: C Nwachukwu, H O Idehen, N P Edomwonyi, B Umeh
Region / country: Western Africa – Nigeria
Speciality: Anaesthesia, Trauma and orthopaedic surgery, Trauma surgery

Background
One of the drawbacks of subarachnoid block is the short duration of analgesia particularly when adjuvants are not added to local anesthetics agent used. However, dexmedetomidine an α2-adrenergic agent has been found to possess analgesic effect.
Aims
This study seeks to determine the analgesic efficacy of intrathecal 7.5 μg of dexmedetomidine and its side effects when used for open reduction and internal fixation (ORIF) of femoral fractures.
Methodology
It is a prospective randomized, double-blinded study that was carried out in a Nnamdi Azikiwe University Teaching Hospital, Nnewi in Nigeria. Seventy American Society of Anesthesiologists I or II patients were randomized into two groups of 35 each to receive 3 ml of 0.5% hyperbaric bupivacaine combined with either 7.5 μg of dexmedetomidine in 0.3 ml of normal saline (Group D) or 0.3 ml of normal saline alone (Group S). Patient's outcome measures noted (time to first request of analgesia, proportion of patients with pain score <4 postoperatively using numerical rating scale [NRS], and total analgesic consumed in 24 h.).
Results
The patients in Group D had a longer time to first request of analgesia, larger proportion of patients with pain score 0.05). However, the patient satisfaction was better in Group D.
Conclusion
The addition of 7.5 μg of dexmedetomidine to bupivacaine for subarachnoid block in the management of femoral fractures using ORIF provided better anesthetic profile, particularly prolonged duration of postoperative analgesia without significant side effects.

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26. GLOBALIZATION OF NATIONAL SURGICAL, OBSTETRIC AND ANESTHESIA PLANS: THE CRITICAL LINK BETWEEN HEALTH POLICY AND ACTION IN GLOBAL SURGERY

Global Health

Authors: Paul Truché, Haitham Shoman, Ché L. Reddy, Desmond T. Jumbam, Joanna Ashby, Adelina Mazhiqi, Taylor Wurdeman, Emmanuel A. Ameh, Martin Smith, Edwin Lugazia, Emmanuel Makasa, Kee B. Park, and John G. Meara
Region / country: Global
Speciality: Anaesthesia, Health policy, Obstetrics and Gynaecology, Other

Efforts from the developed world to improve surgical, anesthesia and obstetric care in low- and middle-income countries have evolved from a primarily volunteer mission trip model to a sustainable health system strengthening approach as private and public stakeholders recognize the enormous health toll and financial burden of surgical disease. The National Surgical, Obstetric and Anesthesia Plan (NSOAP) has been developed as a policy strategy for countries to address, in part, the health burden of diseases amenable to surgical care, but these plans have not developed in isolation. The NSOAP has become a phenomenon of globalization as a broad range of partners – individuals and institutions – help in both NSOAP formulation, implementation and financing. As the nexus between policy and action in the field of global surgery, the NSOAP reflects a special commitment by state actors to make progress on global goals such as Universal Health Coverage and the United Nations Sustainable Development Goals. This requires a continued global commitment involving genuine partnerships that embrace the collective strengths of both national and global actors to deliver sustained, safe and affordable high-quality surgical care for all poor, rural and marginalized people.

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27. PRIORITIES FOR PERI-OPERATIVE RESEARCH IN AFRICA
Anaesthesia

Authors: B.M. Biccard
Region / country: Eastern Africa, Middle Africa, Southern Africa, Western Africa
Speciality: Anaesthesia

Deaths following surgery are the third largest contributor to deaths globally, and in Africa are twice the global average. There is a need for a peri-operative research agenda to ensure co-ordinated, collaborative research efforts across Africa in order to decrease peri-operative mortality. The objective was to determine the top 10 research priorities for peri-operative research in Africa. A Delphi technique was used to establish consensus on the top research priorities. The top 10 research priorities identified were (1) Develop training standards for peri-operative healthcare providers (surgical, anaesthesia and nursing) in Africa; (2) Develop minimum provision of care standards for peri-operative healthcare providers (surgical, anaesthesia and nursing) in Africa; (3) Early identification and management of mothers at risk from peripartum haemorrhage in the peri-operative period; (4) The role of communication and teamwork between surgical, anaesthetic, nursing and other teams involved in peri-operative care; (5) A facility audit/African World Health Organization situational analysis tool audit to assess emergency and essential surgical care, which includes anaesthetic equipment available and level of training and knowledge of peri-operative healthcare providers (surgeons, anaesthetists and nurses); (6) Establishing evidence-based practice guidelines for peri-operative physicians in Africa; (7) Economic analysis of strategies to finance access to surgery in Africa; (8) Establishment of a minimum dataset surgical registry; (9) A quality improvement programme to improve implementation of the surgical safety checklist; and (10) Peri-operative outcomes associated with emergency surgery. These peri-operative research priorities provide the structure for an intermediate-term research agenda to improve peri-operative outcomes across Africa

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28. VARIATION IN GLOBAL UPTAKE OF THE SURGICAL SAFETY CHECKLIST

British Journal Of Surgery

Authors: M. Delisle , J. C. Pradarelli, N. Panda, L. Koritsanszky, Y. Sonnay, S. Lipsitz, R. Pearse, E. M. Harrison, B. Biccard , T. G. Weiser and A. B. Haynes, on behalf of the Surgical Outcomes Study Groups and GlobalSurg Collaborative
Region / country: Global
Speciality: Anaesthesia, Surgical Education

Background: The Surgical Safety Checklist (SSC) is a patient safety tool shown to reduce mortality and to improve teamwork and adherence with perioperative safety practices. The results of the original pilot work were published 10 years ago. This study aimed to determine the contemporary prevalence and predictors of SSC use globally.
Methods: Pooled data from the GlobalSurg and Surgical Outcomes studies were analysed to describe SSC use in 2014–2016. The primary exposure was the Human Development Index (HDI) of the reporting country, and the primary outcome was reported SSC use. A generalized estimating equation, clustering by facility, was used to determine differences in SSC use by patient, facility and national characteristics.
Results: A total of 85 957 patients from 1464 facilities in 94 countries were included. On average, facilities used the SSC in 75·4 per cent of operations. Compared with very high HDI, SSC use was less in low HDI countries (odds ratio (OR) 0·08, 95 per cent c.i. 0·05 to 0·12). The SSC was used less in urgent compared with elective operations in low HDI countries (OR 0·68, 0·53 to 0·86), but used equally for urgent and elective operations in very high HDI countries (OR 0·96, 0·87 to 1·06). SSC use was lower for obstetrics and gynaecology versus abdominal surgery (OR 0·91, 0·85 to 0·98) and where the common or official language was not one of the WHO official languages (OR 0·30, 0·23 to 0·39).
Conclusion: Worldwide, SSC use is generally high, but significant variability exists. Implementation and dissemination strategies must be developed to address this variability.

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29. INCIDENCE AND FACTORS ASSOCIATED WITH POSTOPERATIVE NAUSEA AND VOMITING AMONG ELECTIVE ADULT SURGICAL PATIENTS AT UNIVERSITY OF GONDAR COMPREHENSIVE SPECIALIZED HOSPITAL, NORTHWEST ETHIOPIA, 2019: A CROSS-SECTIONAL STUDY

International Journal Of Surgery Open

Authors: Seid Adem Ahmed, Girmay Fitiwi Lema
Region / country: Eastern Africa – Ethiopia
Speciality: Anaesthesia

Background
Postoperative nausea and vomiting is a common complication of anaesthesia and surgery. It is considered the most common cause of morbidity following anaesthesia and has significant effects on patient satisfaction and cost. Despite modern anaesthetic and surgical techniques, the incidence of PONV remains high.
Objective
The objective of this study was to determine the incidence of postoperative nausea and vomiting and associated factors.
Methods
A cross-sectional study was conducted from January 1 to May 30, 2019. A total of 355 adult elective patients who were operated on this period were included in the study.
Results
The incidence of postoperative nausea and vomiting was 17.2% within 24 h after operation. Factors that were associated with postoperative nausea and vomiting were history of motion sickness (AOR = 6.0, CI = 2.51–14.49), previous history of postoperative nausea and vomiting (AOR = 13.55, CI = 6.37–28.81) and long duration of surgery (AOR = 10.1, CI = 3.97–25.92).
Conclusion
and recommendations: The incidence of postoperative nausea and vomiting was still high compared with most studies conducted in the world. However, when it compared to the previous study done in the study area, it showed significant reduction in the incidence of PONV by 19%.We suggest that the use of anti-emetic prophylaxis and the introduction of postoperative nausea and vomiting treatment protocols

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