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INDEX COLLECTIONS
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INTERACTIVE PDF SERIES
A MONTHLY LITERATURE SEARCH OF OPEN ACCESS, SCIENTIFIC ARTICLES RELATED TO GLOBAL SURGERY

ABOUT THE ONE.SURGERY INDEX

The One Surgery Index (OSI) is a collective project aiming to unite the wide body of academic research relating to surgery in low and middle income countries. Although research dedicated to this field is steadily increasing, it is often spread thinly across multiple sources and accessibility settings. This results in great difficulty identifying important scientific work and advancing progressive improvements within the sphere of global surgical practice. Furthermore, awareness of these latest publications does not often filter to those that would benefit from it the most – the healthcare staff working daily to improve surgical care across the world, in limited, resource poor settings.

The One Surgery Index has therefore been designed to make relevant knowledge more accessible to areas of the world where the research may have the greatest impact. By indexing and archiving scientific research – country by country, region by region and surgical speciality by speciality, the Index hopes to create an up-to-date library of global surgical research that can be easily found by any participating stakeholder throughout the world. By doing so, the index hopes to promote academic work in low and middle income countries and inspire further collaboration.

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1. NEGATIVE PRESSURE WOUND THERAPY IN THE TREATMENT OF SURGICAL SITE INFECTION IN CARDIAC SURGERY

Revista Brasileira De Enfermagem

Authors: Mayra de Castro Oliveira, Alessandra Yuri Takehana de Andrade, Ruth Natalia Teresa Turrini, Vanessa de Brito Poveda
Region / country: South America – Brazil
Speciality: Cardiothoracic surgery

Objectives
To describe the relationship between epidemiological and clinical characteristics of postoperative cardiac surgery patients undergoing negative pressure wound therapy for the treatment of surgical site infection.
Methods
An observational, cross-sectional analytical study including a convenience sample consisting of medical records of patients undergoing sternal cardiac surgery with surgical site infection diagnosed in medical records treated by negative pressure wound therapy.
Results
Medical records of 117 patients, mainly submitted to myocardial revascularization surgery and with deep incisional surgical site infection (88; 75.2%). Negative pressure wound therapy was used on mean for 16 (±9.5) days/patient; 1.7% had complications associated with therapy and 53.8% had discomfort, especially pain (93.6%). The duration of therapy was related to the severity of SSI (p=0.010) and the number of exchanges performed (p=0.045).
Conclusions
Negative pressure wound therapy has few complications, but with discomfort to patients.

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2. FACTORS ASSOCIATED WITH THE UPTAKE OF CATARACT SURGERY AND INTERVENTIONS TO IMPROVE UPTAKE IN LOW- AND MIDDLE-INCOME COUNTRIES: A SYSTEMATIC REVIEW

Plose One

Authors: Eunice Wandia Mailu, Bhavisha Virendrakumar, Stevens Bechange, Emma Jolley, Elena Schmidt
Region / country: Global
Speciality: Ophthalmology

Despite significant evidence around barriers hindering timely access to cataract surgery in low- and middle-income countries (LMICs), little is known about the strategies necessary to overcome them and the factors associated with improved access. Despite significant evidence that certain groups, women for example, experience disproportionate difficulties in access, little is known about how to improve the situation for them. Two reviews were conducted recently: Ramke et al., 2018 reported experimental and quasi-experimental evaluations of interventions to improve access of cataract surgical services, and Mercer et al., 2019 investigated interventions to improve gender equity. The aim of this systematic review was to collate, appraise and synthesise evidence from studies on factors associated with uptake of cataract surgery and strategies to improve the uptake in LMICs. We performed a literature search of five electronic databases, google scholar and a detailed reference review. The review identified several strategies that have been suggested to improve uptake of cataract surgery including surgical awareness campaigns; use of successfully operated persons as champions; removal of patient direct and indirect costs; regular community outreach; and ensuring high quality surgeries. Our findings provide the basis for the development of a targeted combination of interventions to improve access and ensure interventions which address barriers are included in planning cataract surgical services. Future research should seek to examine the effectiveness of these strategies and identify other relevant factors associated with intervention effects.

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3. CANCELLATION OF ELECTIVE SURGICAL CASES IN A NIGERIAN TEACHING HOSPITAL: FREQUENCY AND REASONS

Nigerian Journal Of Clinical Practice

Authors: C J Okeke, A O Obi, K H Tijani, U E Eni, C O Okorie
Region / country: Western Africa – Nigeria
Speciality: General surgery

Background: Dwindling economic resources and reduced manpower in the health sector require efficient use of the available resources. Day of surgery cancellation has far reaching consequences on the patients and the theatre staff involved. Full use of the theatre space should be pursued by every theatre user.
Objective: The study aimed to report on the rates and causes of day of surgery cancellation of elective surgical cases in our hospital as a means towards proffering solutions.
Materials and methods: It was a retrospective study of all elective cases that were booked over a 15-month period from January 2016 to March 2017. Cancellation was said to have occurred when the planned surgery did not take place on the proposed day of surgery. Cancellations were categorized into patient-related, surgeon-related, hospital-related and anesthetist-related. Reasons for the cancellations were documented. Data were analyzed using Statistical Package for the Social Sciences (SPSS) software program, version 22. Variables were compared using Chi-square tests. A value of $P < 0.05$ was considered statistically significant.
Results: During the 15-month period, a total of 1296 elective surgeries were booked. Of this, 118 (9.1%) cases were cancelled. Patient-related factor was the most common reason (47.5%) followed by surgeon-related factor (28%). Lack of funds was the most common patient related-reason for cancellation. Majority of the cancelled cases were general surgical cases (36.4%) followed by orthopedics (25.4%) and urology (11%). Seventy percent of the cancelled cases were first and second on the elective list.
Conclusion: The cancellation rate in this study is high. The reasons for these cancellations are preventable. To ensure effective use of the theatre, efforts should be made to tackle these reasons.

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4. INVESTING IN SURGERY: A VALUE PROPOSITION FOR AFRICAN LEADERS

Lancet

Authors: Desmond T Jumbam , Ché L Reddy , Emmanuel Makasa , Adeline A Boatin , Khama Rogo , Kathryn M Chu , Benetus Nangombe , Olufemi T Oladapo , John G Meara , Salome Maswime
Region / country: Central Africa, Eastern Africa, Middle Africa, Northern Africa, Southern Africa, Western Africa
Speciality: Health policy

Globally, poor access to high-quality surgical, obstetric, and anaesthesia care remains a main contributor to global disease burden accounting for about a third of deaths worldwide. The need for strengthening surgical care systems is especially urgent in sub-Saharan Africa, where access is strikingly limited, leading to the highest mortality and morbidity from surgically preventable and treatable conditions in the world. Approximately 93% of the population of sub-Saharan Africa lacks access to safe, affordable, and timely surgical care, compared with less than 10% in high-income countries.2 Despite the immense and growing need for surgical services in sub-Saharan Africa, investments by African public sector leaders to improve surgical systems on the subcontinent have been inadequate. The current COVID-19 pandemic has disrupted health care globally, with an estimation by the CovidSurg Collaborative showing that more than 28 million surgeries will be postponed or cancelled worldwide during the 12 weeks of peak disruption. There is a basic ethical responsibility to provide surgical care as a fundamental human right, in keeping with the principles espoused in the Universal Declaration of Human Rights. Additionally, improved access to high-quality surgical care is an essential component of universal health coverage and will contribute to good health and wellbeing, leading to improved human capital—all of which are vital for poverty reduction and economic growth on the continent.

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5. TOWARD A COMPLETE ESTIMATE OF PHYSICAL AND PSYCHOSOCIAL MORBIDITY FROM PROLONGED OBSTRUCTED LABOUR: A MODELLING STUDY BASED ON CLINICIAN SURVEY

Bmj Global Health

Authors: Lina Roa , Luke Caddell , Gabriel Ganyaglo , Vandana Tripathi , Nazmul Huda , Lauri Romanzi , Blake C Alkire
Region / country: Central Africa, Eastern Africa, Middle Africa, Northern Africa, South-eastern Asia, Southern Africa, Western Africa
Speciality: Obstetrics and Gynaecology

Introduction: Prolonged obstructed labour often results from lack of access to timely obstetrical care and affects millions of women. Current burden of disease estimates do not include all the physical and psychosocial sequelae from prolonged obstructed labour. This study aimed to estimate the prevalence of the full spectrum of maternal and newborn comorbidities, and create a more comprehensive burden of disease model.
Methods: This is a cross-sectional survey of clinicians and epidemiological modelling of the burden of disease. A survey to estimate prevalence of prolonged obstructed labour comorbidities was developed for prevalence estimates of 27 comorbidities across seven categories associated with prolonged obstructed labour. The survey was electronically distributed to clinicians caring for women who have suffered from prolonged obstructed labour in Asia and Africa. Prevalence estimates of the sequelae were used to calculate years lost to disability for reproductive age women (15 to 49 years) in 54 low- and middle-income countries that report any prevalence of obstetric fistula.
Results: Prevalence estimates were obtained from 132 participants. The median prevalence of reported sequelae within each category were: fistula (6.67% to 23.98%), pelvic floor (6.53% to 8.60%), genitourinary (5.74% to 9.57%), musculoskeletal (6.04% to 11.28%), infectious/inflammatory (5.33% to 9.62%), psychological (7.25% to 24.10%), neonatal (13.63% to 66.41%) and social (38.54% to 59.88%). The expanded methodology calculated a burden of morbidity associated with prolonged obstructed labour among women of reproductive age (15 to 49 years old) in 2017 that is 38% more than the previous estimates.
Conclusions: This analysis provides estimates on the prevalence of physical and psychosocial consequences of prolonged obstructed labour. Our study suggests that the burden of disease resulting from prolonged obstructed labour is currently underestimated. Notably, women who suffer from prolonged obstructed labour have a high prevalence of psychosocial sequelae but these are often not included in burden of disease estimates. In addition to preventative and public health measures, high quality surgical and anaesthesia care are urgently needed to prevent prolonged obstructed labour and its sequelae.

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6. 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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7. 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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8. TRAUMA TEAM CONFORMATION IN A WAR-INFLUENCED MIDDLE-INCOME COUNTRY IN SOUTH AMERICA: IS IT POSSIBLE?

International Journal Of Emergency Medicine

Authors: Sandra Carvajal, Francisco L Uribe-Buritica, Ana Maria Ángel-Isaza, María Camila López-Girón, Andres González, Julian Chica, Manuel Benitez & Alberto F García
Region / country: South America – Colombia
Speciality: Emergency surgery, Trauma surgery

Introduction: Trauma teams (TTs) improve outcomes in trauma patients. A multidisciplinary TT was conformed in September 2015 in a tertiary level I trauma university hospital in southwestern Colombia, a middle-income war-influenced country.
Objective: To evaluate the impact of a TT in admission-tomography and admission-surgery times as well as mortality in a tertiary center university hospital in a middle-income country war-influenced country.
Material and methods: Retrospective analytical study. Patients older than 17 years admitted to the emergency room 15 months prior and 15 months after the TT implementation were included. Patients prior to the TT implementation were taken as controls. No exclusion criteria. Four hundred sixty-four patients were included, 220 before the TT implementation (BTT) and 244 after (ATT). Demographic data, trauma characteristics, admission-tomography, and admission-surgery time interval as well as mortality were recorded. Requirement of CT scan or surgery was based on physician decision. The analysis was made on Stata 15.1®. Categorical variables were described as quantities and proportions, and continuous variables as mean and standard deviation or median and interquartile range (IQR). Categorical variables were compared using $\chi 2$ or Fisher's test and continuous variables using Student's T test or Wilcoxon-Mann-Whitney. A multiple logistic regression model was created to evaluate the impact of being treated in the ATT group on mortality, adjusted by age, trauma severity, and physiological response upon admission.
Results: The admission-tomography time interval was 56 min (IQR 39-100) in the BTT group and 40 min (IQR 24-76) in the ATT group, $p < 0.001$. The admission-surgery time interval was 116 min (IQR 63-214) in the BTT group and 52 min (IQR 24-76) in the ATT group, $p < 0.001$. Mortality in the BTT group was 18.1% and 13.1% in the ATT group. Adjusted OR was 0.406 (0.215-0.789) $p = 0.006$ CONCLUSIONS: A trauma team conformation in a war-influenced middle-income country is feasible and reduces mortality as well as admission-surgery and admission-tomography time intervals in trauma patients.

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9. 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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10. IMPACT OF THE CORONAVIRUS DISEASE 2019 (COVID-19) PANDEMIC ON PEDIATRIC ONCOLOGY CARE IN THE MIDDLE EAST, NORTH AFRICA, AND WEST ASIA REGION: A REPORT FROM THE PEDIATRIC ONCOLOGY EAST AND MEDITERRANEAN (POEM) GROUP

Cancer

Authors: Raya Saab MD, Anas Obeid MD, Fatiha Gachi MD, Houda Boudiaf MD, Lilit Sargsyan MD, Khulood Al-Saad MD, Tamar Javakhadze MD, Azim Mehrvar MD, Sawsan Sati Abbas MD, Yasir Saadoon Abed Al-Agele MD, Salma Al-Haddad MD, Mouroge Hashim Al Ani MD, Suleiman Al-Sweedan MD, Amani Al Kofide MD, Wasil Jastaniah MD, Nisreen Khalifa MD, Elie Bechara MD, Malek Baassiri MD, Peter Noun MD, Jamila El-Houdzi MD, Mohammed Khattab MD, Krishna Sagar Sharma MD, Yasser Wali MD, Naureen Mushtaq MD, Aliya Batool MD, Mahwish Faizan MD, Muhammad Rafie Raza MD, Mohammad Najajreh MD, Mohammed Awad Mohammed Abdallah MD, Ghada Sousan MD, Khaled M. Ghanem MD, Ulker Kocak MD, Tezer Kutluk MD, Hacı Ahmet Demir MD, Hamoud Hodeish MD, Samar Muwakkit MD, Asim Belgaumi MD, Abdul-Hakim Al-Rawas MD, Sima Jeha MD
Region / country: Global
Speciality: Paediatric surgery, Surgical oncology

Background
Childhood cancer is a highly curable disease when timely diagnosis and appropriate therapy are provided. A negative impact of the coronavirus disease 2019 (COVID-19) pandemic on access to care for children with cancer is likely but has not been evaluated.
METHODS
A 34-item survey focusing on barriers to pediatric oncology management during the COVID-19 pandemic was distributed to heads of pediatric oncology units within the Pediatric Oncology East and Mediterranean (POEM) collaborative group, from the Middle East, North Africa, and West Asia. Responses were collected on April 11 through 22, 2020. Corresponding rates of proven COVID-19 cases and deaths were retrieved from the World Health Organization database.
Results
In total, 34 centers from 19 countries participated. Almost all centers applied guidelines to optimize resource utilization and safety, including delaying off-treatment visits, rotating and reducing staff, and implementing social distancing, hand hygiene measures, and personal protective equipment use. Essential treatments, including chemotherapy, surgery, and radiation therapy, were delayed in 29% to 44% of centers, and 24% of centers restricted acceptance of new patients. Clinical care delivery was reported as negatively affected in 28% of centers. Greater than 70% of centers reported shortages in blood products, and 47% to 62% reported interruptions in surgery and radiation as well as medication shortages. However, bed availability was affected in <30% of centers, reflecting the low rates of COVID-19 hospitalizations in the corresponding countries at the time of the survey.
Conclusions
Mechanisms to approach childhood cancer treatment delivery during crises need to be re-evaluated, because treatment interruptions and delays are expected to affect patient outcomes in this otherwise largely curable disease.

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11. SURGICAL MANAGEMENT OF UROLITHIASIS OF THE UPPER TRACT – CURRENT TREND OF ENDOUROLOGY IN AFRICA

Research And Reports In Urology

Authors: Cassell A III, Jalloh M, Ndoye M, Mbodji M, Gaye O, Thiam NM, Diallo A, Labou I, Niang L, Gueye S
Region / country: Central Africa, Eastern Africa, Middle Africa, Northern Africa, Southern Africa, Western Africa
Speciality: Urology surgery

Urolithiasis is a global pathology with increasing prevalence rate. The lifetime recurrence of urolithiasis ranges from 10– 75% creating a public health crisis in affected regions. The epidemiology of urolithiasis in most parts of Africa and Asia remains poorly documented as incidence and prevalence rates in these settings are extrapolated from hospital admissions. The surgical management of kidney and ureteral stones is based on the stone location, size, the patient’s preference and the institutional capacity. To date, the available modalities in the management of urolithiasis includes external shock wave lithotripsy (ESWL), percutaneous nephrolithotomy (PCNL), ureterorenoscopy (URS) including flexible and semirigid ureteroscopy. However, regarding the lack of endourological equipment and expertise in most parts of Sub-Saharan Africa (SSA), most urological centers in these regions still consider open surgery for kidney and ureteral stones. This review explores the current trend and surgical management of upper tract urolithiasis in SSA with insight on the available clinical guidelines

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12. BARRIERS TO SURGERY PERFORMED BY NON-PHYSICIAN CLINICIANS IN SUB-SAHARAN AFRICA—A SCOPING REVIEW

Human Resources For Health

Authors: Phylisha van Heemskerken, Henk Broekhuizen, Jakub Gajewski, Ruairí Brugha & Leon Bijlmakers
Region / country: Central Africa, Eastern Africa, Middle Africa, Northern Africa, Southern Africa, Western Africa
Speciality: Other

Background
Sub-Saharan Africa (SSA) faces the highest burden of disease amenable to surgery while having the lowest surgeon to population ratio in the world. Some 25 SSA countries use surgical task-shifting from physicians to non-physician clinicians (NPCs) as a strategy to increase access to surgery. While many studies have investigated barriers to access to surgical services, there is a dearth of studies that examine the barriers to shifting of surgical tasks to, and the delivery of safe essential surgical care by NPCs, especially in rural areas of SSA. This study aims to identify those barriers and how they vary between surgical disciplines as well as between countries.
Methods
We performed a scoping review of articles published between 2000 and 2018, listed in PubMed or Embase. Full-text articles were read by two reviewers to identify barriers to surgical task-shifting. Cited barriers were counted and categorized, partly based on the World Health Organization (WHO) health systems building blocks.
Results
Sixty-two articles met the inclusion criteria, and 14 clusters of barriers were identified, which were assigned to four main categories: primary outcomes, NPC workforce, regulation, and environment and resources. Malawi, Tanzania, Uganda, and Mozambique had the largest number of articles reporting barriers, with Uganda reporting the largest variety of barriers from empirical studies only. Obstetric and gynaecologic surgery had more articles and cited barriers than other specialties.
Conclusion
A multitude of factors hampers the provision of surgery by NPCs across SSA. The two main issues are surgical pre-requisites and the need for regulatory and professional frameworks to legitimate and control the surgical practice of NPCs.

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13. A REVIEW OF THE EPIDEMIOLOGY, POST-NEUROSURGICAL CLOSURE COMPLICATIONS AND OUTCOMES OF NEONATES WITH OPEN SPINA BIFIDA

South African Journal Of Child Health

Authors: P C Mashiloane, R Masekela
Region / country: Southern Africa – South Africa
Speciality: Neurosurgery, Paediatric surgery

Background. Spina bifida (SB) is a neural tube defect (NTD) that has an increased risk of fatal and disabling effects if not repaired early, i.e. within the first 24 to 48 hours of life. Its diagnosis holds an increased burden for the patient and the caregiver owing to secondary complications. The effects of the disease are detrimental even with early repair, because of the long-term disabling nature of the disease.
Objective. This retrospective study aimed to assess the effects of demographics, immediate post-surgical complications and impact of time to surgical intervention on the outcome of neonates with open SB (OSB) admitted to the neonatal intensive care unit (NICU) at Inkosi Albert Luthuli Central Hospital (IALCH) in KwaZulu-Natal, South Africa (SA), between January 2011 and December 2015.
Methods. A retrospective chart review was conducted at the NICU of IALCH. All neonates diagnosed with SB were identified. The study period was from 1 January 2011 to 31 December 2015. Data were collected from the IALCH electronic database. All neonates with SB admitted to the IALCH NICU were included; any patient who presented beyond the neonatal period (i.e. >28 days) was excluded from the study. Data collected included maternal demographics. Additionally, neonatal history was reviewed and post surgery complications evaluated. Outpatient management post discharge was reviewed.
Results. One hundred and fifty neonates were included (58% male). The mean (standard deviation) maternal age was 26.7 (6.6) years. Only 10% had an antenatal diagnosis of OSB. Seventy-eight percent were born at term and 22% prematurely. The lumbar/sacral region was the most commonly affected. More males (14%) had thoraco/lumbar lesions than females (7.8%). Forty-eight percent presented before 3 days of life (early presentation). In the late-presentation group, there was an association with wound sepsis ($p=0.003$). Twenty-five percent were repaired between days 0 and 3 of life and 75% after 3 days. Postoperative complications in patients whose open SBs were repaired beyond 3 days of life were not statistically significant compared with those with early repair; all were $p>0.05$. There was a borderline association of prolonged hospitalisation with wound sepsis ($p=0.07$). Long-term outcomes showed that 68% had lower limb dysfunction, 18% urological complications, 14% limb deformity, and 11% hydrocephalus. A minority had psychomotor (7%) and developmental (15%) disorders. Ten percent required readmission secondary to shunt complications, and 7% died.
Conclusion. SB remains a significant disease burden that affects outcome and survival of neonates in SA. Lack of good antenatal care, which includes early ultrasound and timely referral to centres, are barriers to good outcomes. Long-term follow-up is also necessary to prevent morbidity.

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14. TRAUMA IN PREGNANCY AT A MAJOR TRAUMA CENTRE IN SOUTH AFRICA

South African Medical Journal

Authors: S E Moffatt, B Goldberg, V Y Kong, J-P Da Costa, M T D Smith, J L Bruce, G L Laing, D L Clarke
Region / country: Southern Africa – South Africa
Speciality: Obstetrics and Gynaecology, Trauma surgery

Background. Trauma in pregnancy poses a unique challenge to clinicians. Literature on this topic is limited in South Africa (SA).
Objectives. To review our institution's experience with the management of trauma in pregnancy in a developing-world setting.
Methods. This study was based at Grey's Hospital, Pietermaritzburg, SA. All pregnant patients who were admitted to our institution following trauma between December 2012 and December 2018 were identified from the Hybrid Electronic Medical Registry (HEMR).
Results. During the 6-year study period, 2 990 female patients were admitted by the Pietermaritzburg Metropolitan Trauma Service (PMTS), of whom 89 were pregnant. The mean age of these patients was 25.64 (range 17 – 43) years. The mechanism of injury was road traffic crash (RTC) in 39, stab wounds (SW) in 19, assault other than SW or gunshot wounds (GSW) in 19, GSW in 8, snake bite in 5, impalement in 1, dog bite in 1, hanging in 1, sexual assault in 1 and a single case of a patient being hit by a falling object. A subset of patients sustained >1 mechanism of injury. Thirty patients were managed operatively. The mean time of gestation was 19.16 (5 – 36) weeks. Three patients died, and there were 16 fetal deaths (including 3 lost after the mother's death). Forty-five fetuses were recorded as surviving at discharge, while 25 fetal outcomes were not specifically recorded. There were 2 threatened miscarriages and/or patients with vaginal bleeding, 1 positive pregnancy test with no recorded outcome and no premature births as a result of trauma.
Conclusions. Trauma in pregnancy is relatively uncommon and mostly due to a RTC or deliberately inflicted trauma. Fetal outcome is largely dependent on the severity of the maternal injury, with injuries requiring laparotomy leading to a high fetal mortality rate.

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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. IS AJCC/UICC STAGING STILL APPROPRIATE FOR HEAD AND NECK CANCERS IN DEVELOPING COUNTRIES?
Oto Open

Authors: Johannes J Fagan, Julie Wetter, Jeffrey Otiti , Joyce Aswani , Anna Konney , Evelyne Diom , Kenneth Baidoo, Paul Onakoya , Rajab Mugabo , Patrick Noah , Victor Mashamba , Innocent Kundiona , Chege Macharia , Mohammed Garba Mainasara , Melesse Gebeyehu , Mesele Bogale , Khaled Twier , Marco Faniriko , Getachew Beza Melesse , Mark G Shrime
Region / country: Central Africa, Eastern Africa, Middle Africa, Northern Africa, Southern Africa, Western Africa
Speciality: ENT surgery, Surgical oncology

By 2030, 70% of cancers will occur in developing countries. Head and neck cancers are primarily a developing world disease. While anatomical location and the extent of cancers are central to defining prognosis and staging, the American Joint Committee on Cancer (AJCC)/International Union Against Cancer (UICC) have incorporated nonanatomic factors that correlate with prognosis into staging (eg, p16 status of oropharyngeal cancers). However, 16 of 17 head and neck surgeons from 13 African countries cannot routinely test for p16 status and hence can no longer apply AJCC/UICC staging to oropharyngeal cancer. While the AJCC/UICC should continue to refine staging that best reflects treatment outcomes and prognosis by incorporating new nonanatomical factors, they should also retain and refine anatomically based staging to serve the needs of clinicians and their patients in resource-constrained settings. Not to do so would diminish their global relevance and in so doing also disadvantage most of the world’s cancer patients.

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17. 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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18. NATIONAL APPROACHES TO TRICHIASIS SURGICAL FOLLOW-UP, OUTCOME ASSESSMENT AND SURGEON AUDIT IN TRACHOMA-ENDEMIC COUNTRIES IN AFRICA

British Journal Of Ophthalmology

Authors: Grace Mwangi, Paul Courtright, Anthony W Solomon
Region / country: Central Africa, Eastern Africa, Western Africa
Speciality: Ophthalmology

Background: Poor outcomes of trichiasis surgery, including postoperative trichiasis, are common in many trachoma-endemic countries in Africa. To improve outcomes, WHO recommends regular follow-up and outcome assessment of surgical cases plus audit of trichiasis surgeons.
Aims: To assess national approaches to trichiasis surgical follow-up, outcome assessment and audit, and identify national targets for good surgical outcome (defined as the percentage of patients undergoing surgery for trichiasis remaining free of post-operative trichiasis for a defined interval after surgery).
Methods: A cross-sectional survey was carried out between May and July 2018, involving all 29 known-trachoma-endemic countries in Africa. An emailed questionnaire was used to collect information on national targets for surgical outcomes, policies, monitoring and strategies to address underperformance by surgeons.
Results: All national programmes provided information; 2 of the 29 had not yet implemented trichiasis surgery as part of their trachoma elimination programme. Findings from 27 countries are therefore reported. Only four countries reported having a national policy for trichiasis surgery follow-up and outcome assessment and only two had a national policy for conducting audits of trichiasis surgeons. Only 9 of the 27 countries had a cut-off point at which poorly performing surgeons would be instructed to discontinue surgery until retraining or other interventions had been undertaken.
Discussion: To address the challenge of post-operative trichiasis and other poor outcomes, national trachoma programmes should create and implement policies and systems to follow up patients, assess surgical outcomes and monitor the performance of individual surgeons through post-surgical audits.

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19. AWAKE CRANIOTOMY IN A CHILD: ASSESSMENT OF ELIGIBILITY WITH A SIMULATED THEATRE EXPERIENCE

Case Reports In Anesthesiology

Authors: Jason Labuschagne, Clover-Ann Lee, Denis Mutyaba, Tatenda Mbanje, Cynthia Sibanda
Region / country: Southern Africa – South Africa
Speciality: Neurosurgery, Paediatric surgery, Surgical oncology

Background: Awake craniotomy is a useful surgical approach to identify and preserve eloquent areas during tumour resection, during surgery for arteriovenous malformation resections and for resective epilepsy surgery. With decreasing age, a child's ability to cooperate and mange an awake craniotomy becomes increasingly relevant. Preoperative screening is essential to identify the child who can undergo the procedure safely. Case Description. A 11-year-old female patient presented with a tumour in her right motor cortex, presumed to be a dysembryoplastic neuroepithelial tumour (DNET). We had concerns regarding the feasibility of performing awake surgery in this patient as psychological testing revealed easy distractibility and an inability to follow commands repetitively. We devised a simulated surgical experience to assess her ability to manage such a procedure. During the simulated theatre experience, attempts were made to replicate the actual theatre experience as closely as possible. The patient was dressed in theatre attire and brought into the theatre on a theatre trolley. She was then transferred onto the theatre bed and positioned in the same manner as she would be for the actual surgery. Her head was placed on a horseshoe headrest, and she was made to lie in a semilateral position, as required for the surgery. A blood pressure cuff, pulse oximeter, nasal cannula with oxygen flow, and calf pumps were applied. She was then draped precisely as she would have been for the procedure. Theatre lighting was set as it would be for the surgical case. The application of the monitoring devices, nasal cannula, and draping was meant not only to prepare her for the procedure but to induce a mild degree of stress such that we could assess the child's coping skills and ability to undergo the procedure. The child performed well throughout the simulated run, and surgery was thus offered. An asleep-awake-asleep technique was planned and employed for surgical removal of the tumour. Cortical and subcortical mapping was used to identify the eloquent tissue. Throughout the procedure, the child was cooperative and anxiety free. Follow-up MRI revealed gross total removal of the lesion.
Conclusion: A simulated theatre experience allowed us to accurately determine that this young patient, despite relative contraindications, was indeed eligible for awake surgery. We will continue to use this technique for all our young patients in assessing their eligibility for these procedures.

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20. SALOME MASWIME: DYNAMIC LEADER IN GLOBAL SURGERY

Lancet

Authors: Richard Lane
Region / country: Southern Africa – South Africa
Speciality: Other

As Associate Professor and Head of Global Surgery at the University of Cape Town (UCT), South Africa, Salome Maswime is aware of the scale of the job in front of her. “For me the big problem is the disconnect between health systems and clinical care in low and middle income countries, especially concerning surgical care. Outcomes are often poor, there being not enough focus on the quality of surgery, and how it relates to integrated health care and overarching health systems performance”, she explains. Maswime saw such shortcomings first hand in her clinical career in obstetrics and gynaecology, before she took up the new post as Head of Global Surgery at UCT in July, 2019.

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21. IMPLEMENTATION OF SURGICAL SITE INFECTION SURVEILLANCE IN LOW- AND MIDDLE-INCOME COUNTRIES A POSITION STATEMENT FOR THE INTERNATIONAL SOCIETY FOR INFECTIOUS DISEASES

International Journal Of Infectious Diseases

Authors: Shaheen Mehtar, Anthony Wanyoro , Folasade Ogunsola , Emmanuel A Ameh , Peter Nthumba , Claire Kilpatrick , Gunturu Revathi , Anastasia Antoniadou , Helen Giamarelou , Anucha Apisarnthanarak, John W Ramatowski, Victor D xsRosenthal, Julie Storr, Tamer Saied Osman, Joseph S Solomkin
Region / country: Global
Speciality: Health policy

Surgical site infection (SSI) rates in low- and middle-income countries (LMICs) range from 8 to 30% of procedures, making them the most common healthcare acquired infection (HAI) with substantial morbidity, mortality, and economic impacts. Presented here is an approach to surgical site infection prevention based on surveillance and focused on five key areas as identified by international experts. These five areas include: Collecting valid, high-quality data; Linking HAIs to economic incapacity, underscoring the need to prioritize infection prevention activities; Implementing SSI surveillance within infection prevention and control (IPC) programs to enact structural changes, develop procedural skills, and alter healthcare worker behaviors; Priotiziation of IPC training for healthcare workers in LMICs to conduct broad-based surveillance coupled with the development and implementation of locally applicable IPC programs; Developing a highly accurate and objective international system for defining SSIs that can be translated globally in a straightforward manner. Finally, we present a clear, unambiguous framework for successful SSI guideline implementation that supports the development of sustainable IPC programs in LMICs. This entails: i) identifying index operations for targeted surveillance; ii) identifying IPC “champions” and empowering healthcare workers; iii) using multimodal improvement measures; iv) positioning hand hygiene programs as the basis for IPC initiatives; and v), use of telecommunication devices for surveillance and healthcare outcome follow-ups. Additionally, special considerations for pediatric SSIs, antimicrobial resistance development, and antibiotic stewardship programs are addressed.

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22. COST-EFFECTIVENESS OF INHALED OXYTOCIN FOR PREVENTION OF POSTPARTUM HAEMORRHAGE: A MODELLING STUDY APPLIED TO TWO HIGH BURDEN SETTINGS

Bmc Medicine

Authors: Natalie Carvalho, Mohammad Enamul Hoque, Victoria L. Oliver, Abbey Byrne, Michelle Kermode, Pete Lambert, Michelle P. McIntosh and Alison Morgan
Region / country: Eastern Africa, South-eastern Asia – Bangladesh, Ethiopia
Speciality: Health policy, Obstetrics and Gynaecology

Background: Access to oxytocin for prevention of postpartum haemorrhage (PPH) in resource-poor settings is limited by the requirement for a consistent cold chain and for a skilled attendant to administer the injection. To overcome these barriers, heat-stable, non-injectable formulations of oxytocin are under development, including oxytocin for inhalation. This study modelled the cost-effectiveness of an inhaled oxytocin product (IHO) in Bangladesh and Ethiopia.
Methods: A decision analytic model was developed to assess the cost-effectiveness of IHO for the prevention of PPH compared to the standard of care in Bangladesh and Ethiopia. In Bangladesh, introduction of IHO was modelled in all public facilities and home deliveries with or without a skilled attendant. In Ethiopia, IHO was modelled in all public facilities and home deliveries with health extension workers. Costs (costs of introduction, PPH prevention and PPH treatment) and effects (PPH cases averted, deaths averted) were modelled over a 12-month program. Life years gained were modelled over a lifetime horizon (discounted at 3%). Cost of maintaining the cold chain or effects of compromised oxytocin quality (in the absence of a cold chain) were not modelled.
Results: In Bangladesh, IHO was estimated to avert 18,644 cases of PPH, 76 maternal deaths and 1954 maternal life years lost. This also yielded a cost-saving, with the majority of gains occurring among home deliveries where IHO would replace misoprostol. In Ethiopia, IHO averted 3111 PPH cases, 30 maternal deaths and 767 maternal life years lost. The full IHO introduction program bears an incremental cost-effectiveness ratio (ICER) of between 2 and 3 times the per-capita Gross Domestic Product (GDP) ($1880 USD per maternal life year lost) and thus is unlikely to be considered cost-effective in Ethiopia. However, the ICER of routine IHO administration considering recurring cost alone falls under 25% of per-capita GDP ($175 USD per maternal life-year saved).
Conclusions: IHO has the potential to expand access to uterotonics and reduce PPH-associated morbidity and mortality in high burden settings. This can facilitate reduced spending on PPH management, making the product highly cost-effective in settings where coverage of institutional delivery is lagging.

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23. SYSTEMATIC REVIEW OF BARRIERS TO, AND FACILITATORS OF, THE PROVISION OF HIGH-QUALITY MIDWIFERY SERVICES IN INDIA
Birth

Authors: Alison McFadden RM PhD, Sunanda Gupta MBBS MS MPH, Joyce L. Marshall RM MPH PhD, Shona Shinwell RM MSc, Bharati Sharma PhD, Fran McConville SRN SCM MA , Steve MacGillivray PhD
Region / country: South-eastern Asia – India
Speciality: Obstetrics and Gynaecology

Background
The Indian government has committed to implementing high-quality midwifery care to achieve universal health coverage and reduce the burden of maternal and perinatal mortality and morbidity. There are multiple challenges, including introducing a new cadre of midwives educated to international standards and integrating midwifery into the health system with a defined scope of practice. The objective of this review was to examine the facilitators and barriers to providing high-quality midwifery care in India.
Methods
We searched 15 databases for studies relevant to the provision of midwifery care in India. The findings were mapped to two global quality frameworks to identify barriers and facilitators to providing high-quality midwifery care in India.
Results
Thirty-two studies were included. Key barriers were lack of competence of maternity care providers, lack of legislation recognizing midwives as autonomous professionals and limited scope of practice, social and economic barriers to women accessing services, and lack of basic health system infrastructure. Facilitators included providing more hands-on experience during training, monitoring and supervision of staff, utilizing midwives to their full scope of practice with good referral systems, improving women's experiences of maternity care, and improving health system infrastructure.
Conclusions
The findings can be used to inform policy and practice. Overcoming the identified barriers will be critical to achieving the Government of India's plans to reduce maternal and neonatal mortality through the introduction of a new cadre of midwives. This is unlikely to be effective until the facilitators described are in place.

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24. COMPREHENDING THE LACK OF ACCESS TO MATERNAL AND NEONATAL EMERGENCY CARE: DESIGNING SOLUTIONS BASED ON A SPACE-TIME APPROACH

Plos One

Authors: Núbia Cristina da Silva, Thiago Augusto Hernandes Rocha , Pedro Vasconcelos Amaral, Cyrus Elahi, Elaine Thumé, Erika Bárbara Abreu Fonseca Thomaz, Rejane Christine de Sousa Queiroz, João Ricardo Nickenig Vissoci, Catherine Staton, Luiz Augusto Facchini
Region / country: South America – Brazil
Speciality: Emergency surgery, Obstetrics and Gynaecology

Objective
The objective of this study was to better understand how the lack of emergency child and obstetric care can be related to maternal and neonatal mortality levels.
Methods
We performed spatiotemporal geospatial analyses using data from Brazilian municipalities. An emergency service accessibility index was derived using the two-step floating catchment area (2SFCA) for 951 hospitals. Mortality data from 2000 to 2015 was used to characterize space-time trends. The data was overlapped using a spatial clusters analysis to identify regions with lack of emergency access and high mortality trends.
Results
From 2000 to 2015 Brazil the overall neonatal mortality rate varied from 11,42 to 11,71 by 1000 live births. The maternal mortality presented a slightly decrease from 2,98 to 2,88 by 100 thousand inhabitants. For neonatal mortality the Northeast and North regions presented the highest percentage of up trending. For maternal mortality the North region exhibited the higher volume of up trending. The accessibility index obtained highlighted large portions of the rural areas of the country without any coverage of obstetric or neonatal beds.
Conclusions
The analyses highlighted regions with problems of mortality and access to maternal and newborn emergency services. This sequence of steps can be applied to other low and medium income countries as health situation analysis tool.
Significance statement
Low and middle income countries have greater disparities in access to emergency child and obstetric care. There is a lack of approaches capable to support analysis considering a spatiotemporal perspective for emergency care. Studies using Geographic Information System analysis for maternal and child care, are increasing in frequency. This approach can identify emergency child and obstetric care saturated or deprived regions. The sequence of steps designed here can help researchers, and policy makers to better design strategies aiming to improve emergency child and obstetric care.

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25. THE INTERNATIONAL DISCUSSION AND THE NEW REGULATIONS CONCERNING TRANSVAGINAL MESH IMPLANTS IN PELVIC ORGAN PROLAPSE SURGERY

International Urogynecology Journal

Authors: Nathalie Ng-Stollmann, Christian Fünfgeld, Boris Gabriel & Achim Niesel
Region / country: Global
Speciality: Obstetrics and Gynaecology

The use of transvaginal mesh implants for POP and urinary incontinence is currently being extensively debated among experts as well as the general public. Regulations surrounding the use of these implants differ depending on the country. Although in the USA, the UK, in Canada, Australia, New Zealand, and France, transvaginal mesh implants have been removed from the market, in most mainland European countries, Asia, and South America, they are still available as a surgical option for POP correction. The aim of this review is to provide an overview of the historical timeline and the current situation worldwide, as well as to critically discuss the implications of the latest developments in urogynecological patient care and the training of doctors.

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26. CHANGES IN SURGICAL PRACTICE IN 85 SOUTH AFRICAN HOSPITALS DURING COVID-19 HARD LOCKDOWN

South African Medical Journal

Authors: K M Chu, M Smith, E Steyn, P Goldberg, H Bougard, I Buccimazza
Region / country: Southern Africa – South Africa
Speciality: Health policy

Background. In preparation for the COVID-19 pandemic, South Africa (SA) began a national lockdown on 27 March 2020, and many hospitals implemented measures to prepare for a potential COVID-19 surge.
Objectives. To report changes in SA hospital surgical practices in response to COVID-19 preparedness.
Methods. In this cross-sectional study, surgeons working in SA hospitals were recruited through surgical professional associations via an online survey. The main outcome measures were changes in hospital practice around surgical decision-making, operating theatres, surgical services and surgical trainees, and the potential long-term effect of these changes.
Results. A total of 133 surgeons from 85 hospitals representing public and private hospitals nationwide responded. In 59 hospitals (69.4%), surgeons were involved in the decision to de-escalate surgical care. Access was cancelled or reduced for non-cancer elective (n=84; 99.0%), cancer (n=24; 28.1%) and emergency operations (n=46; 54.1%), and 26 hospitals (30.6%) repurposed at least one operating room as a ventilated critical care bed. Routine postoperative visits were cancelled in 33 hospitals (36.5%) and conducted by telephone or video in 15 (16.6%), 74 hospitals (87.1%) cancelled or reduced new outpatient visits, 64 (75.3%) reallocated some surgical inpatient beds to COVID-19 cases, and 29 (34.1%) deployed some surgical staff (including trainees) to other hospital services such as COVID-19 testing, medical/COVID-19 wards, the emergency department and the intensive care unit.
Conclusions. Hospital surgical de-escalation in response to COVID-19 has greatly reduced access to surgical care in SA, which could result in a backlog of surgical needs and an excess of morbidity and mortality.

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27. TRENDS AND DETERMINANTS OF HEALTH FACILITY CHILDBIRTH SERVICE UTILIZATION AMONG MOTHERS IN URBAN SLUMS OF NAIROBI, KENYA

Global Epidemiology

Authors: Catherine Atahigwa, Damazo T.Kadengye, Samuel Iddi, Steven Abrams, Annelies Van Rie for the NUHDSS
Region / country: Eastern Africa – Kenya
Speciality: Obstetrics and Gynaecology

High maternal mortality remains a challenge for the attainment of the third Sustainable Development Goal in Sub-Saharan Africa. In Kenya, maternal mortality ratio remains high at 362 deaths per 100,000 live births. Utilization of health facility childbirth services ensures safe birth and is vital for the reduction of maternal mortality. However, this can be greatly affected by socioeconomic and geographical inequalities. In this study, we assess the trends and determinants of health facility childbirth service utilization among women giving birth in the urban slums of Nairobi, Kenya. Data were obtained from the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) comprising 19,469 births observed between 2003 and [19]. A logistic regression model, with parameter estimation using a generalized estimating equations (GEE) approach, was used to assess factors associated with health facility childbirth. About 81% of the births occurred at health facilities while 19% were occurring at home or outside a health facility. The results further indicated that, education, parity, and relationship to head of households were associated with health facility childbirth. Increasing awareness of the mothers about the benefits of health facility childbirth service utilization and the risks of home childbirth should be given extra attention by health practitioners during antenatal care visits.

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28. THE RATIO OF SHOCK INDEX TO PULSE OXYGEN SATURATION PREDICTING MORTALITY OF EMERGENCY TRAUMA PATIENTS

Plos One

Authors: Junfang Qi ,Li Ding ,Long Bao,Du Chen
Region / country: South-eastern Asia – China
Speciality: Emergency surgery, Trauma surgery

Objective: To test the following hypothesis: the ratio of shock index to pulse oxygen saturation can better predict the mortality of emergency trauma patients than shock index.
Methods: 1723 Patients of trauma admitted to the Emergency Department of the First Affiliated Hospital of Soochow University from 1 November 2016 to 30 November 2019 were retrospectively evaluated. We defined SS as the ratio of SI to SPO2, and the mortality of trauma patients in the emergency department as end-point of outcome. We calculated the crude HR of SS and adjusted HR with the adjustment for risk factors including sex, age, revised trauma score (RTS) by Cox regression model. ROC curve analyses were performed to compare the area under the curve (AUC) of SS and SI.
Results: The crude HR of SS was: 4.31, 95%CI (2.89-6.42) and adjusted HR: 3.01, 95%CI(1.86-4.88); ROC curve analyses showed that AUC of SS was higher than that of shock index (SI), and the difference was statistically significant: 0.69, 95%CI(0.55-0.83) vs 0.65, 95%CI (0.51-0.79), P = 0.001.
Conclusion: The ratio of shock index to pulse oxygen saturation is good predictor for emergency trauma patients, which has a better prognostic value than shock index.

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29. 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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30. INEQUALITIES IN CAESAREAN SECTION IN BURUNDI: EVIDENCE FROM THE BURUNDI DEMOGRAPHIC AND HEALTH SURVEYS (2010–2016)

Bmc Health Services Research

Authors: Sanni Yaya, Betregiorgis Zegeye, Dina Idriss-Wheeler and Gebretsadik Shibre
Region / country: Eastern Africa – Burundi
Speciality: Health policy, Obstetrics and Gynaecology

Background
Despite caesarean section (CS) being a lifesaving intervention, there is a noticeable gap in providing this service, when necessary, between different population groups within a country. In Burundi, there is little information about CS coverage inequality and the change in provision of this service over time. Using a high-quality equity analysis approach, we aimed to document both magnitude and change of inequality in CS coverage in Burundi over 7 years to investigate disparities.
Methods
For this study, data were extracted from the 2010 and 2016 Burundi Demographic and Health Surveys (BDHS) and analyzed through the recently updated Health Equity Assessment Toolkit (HEAT) of the World Health Organization. CS delivery was disaggregated by four equity stratifiers, namely education, wealth, residence and sub-national region. For each equity stratifier, relative and absolute summary measures were calculated. We built a 95% uncertainty interval around the point estimate to determine statistical significance.
Main findings
Disparity in CS was present in both survey years and increased over time. The disparity systematically favored wealthy women (SII = 10.53, 95% UI; 8.97, 12.10), women who were more educated (PAR = 8.89, 95% UI; 8.51, 9.26), women living in urban areas (D = 12.32, 95% UI; 9.00, 15.63) and some regions such as Bujumbura (PAR = 11.27, 95% UI; 10.52, 12.02).
Conclusions
Burundi had not recorded any progress in ensuring equity regarding CS coverage between 2010 and 2016. It is important to launch interventions that promote justified use of CS among all subpopulations and discourage overuse among high income, more educated women and urban dwellers.

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31. PERCEPTIONS OF NON-COMMUNICABLE DISEASE AND WAR INJURY MANAGEMENT IN THE PALESTINIAN HEALTH SYSTEM: A QUALITATIVE STUDY OF HEALTHCARE PROVIDERS PERSPECTIVES

Journal Of Multidisciplinary Healthcare

Authors: Marwan Mosleh, Yousef Aljeesh, Koustuv Dalal, Charli Eriksson, Heidi Carlerby, Eija Viitasara
Region / country: Middle East – Palestinian Territories
Speciality: Emergency surgery, Trauma surgery

Background: Palestine, like other low-income countries, is confronting an increasing epidemic of non-communicable disease (NCD) and trend of war injury. The management of health problems often presents a critical challenge to the Palestinian health system (PHS). Understanding the perceptions of healthcare providers is essential in exploring the gaps in the health system to develop an effective healthcare intervention. Unfortunately, health research on management of NCD and war injury has largely been neglected and received little attention. Therefore, the study aimed to explore the perspectives of healthcare providers regarding NCD and war injury management in the PHS in the Gaza Strip.
Methods: A qualitative study approach was used, based on four focus group discussions (FGDs) involving a purposive sampling strategy of 30 healthcare providers from three main public hospitals in Gaza Strip. A semi-structured topic guide was used, and the focus group interviews data were analyzed using manifest content analysis. The study was approved by the Palestinian Health Research Council (PHRC) for ethics approval.
Results: From the healthcare providers perspective, four main themes and several sub-themes have emerged from the descriptive manifest content analysis: functioning of healthcare system; system-related challenges; patients-related challenges; strategies and actions to navigating the challenges and improving care. Informants frequently discussed that despite some positive aspects in the system, fundamental changes and significant improvements are needed. Some expressed serious concerns that the healthcare system needs complete rebuilding to facilitate the management of NCD and war-related injury. They perceived important barriers to effective management of NCD and war injury such as poor hospital infrastructure and logistics, shortage of micro and sub-specialities and essential resources. Participants also expressed a dilemma and troubles in communication and interactions, especially during emergencies or crises. The informants stressed the unused of updated clinical management guidelines. There was a consensus regarding poor shared-care/task sharing, partnership, and cooperation among healthcare facilities.
Conclusion: Our findings suggest that fundamental changes and significant reforms are needed in the health system to make healthcare services more effective, timely, and efficient. The study disclosed the non-use of clinical guidelines as well as suboptimal sectorial task-sharing among different stakeholders and healthcare providers. A clear and comprehensive healthcare policy considering the gaps in the system must be adopted for the improvement and development of care in the PHS.

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32. USABILITY OF MOBILE HEALTH APPS FOR POSTOPERATIVE CARE: SYSTEMATIC REVIEW

Jmir Perioperative Medicine

Authors: Ben Patel BA BMBCh, Arron Thind BA BMBCh
Region / country: Global
Speciality: Other

Background: Mobile health (mHealth) apps are increasingly used postoperatively to monitor, educate, and rehabilitate. The usability of mHealth apps is critical to their implementation.
Objective: This systematic review evaluates the (1) methodology of usability analyses, (2) domains of usability being assessed, and (3) results of usability analyses.
Methods: The A Measurement Tool to Assess Systematic Reviews checklist was consulted. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses reporting guideline was adhered to. Screening was undertaken by 2 independent reviewers. All included studies were assessed for risk of bias. Domains of usability were compared with the gold-standard mHealth App Usability Questionnaire (MAUQ).
Results: A total of 33 of 720 identified studies were included for data extraction. Of the 5 included randomized controlled trials (RCTs), usability was never the primary end point. Methodology of usability analyses included interview (10/33), self-created questionnaire (18/33), and validated questionnaire (9/33). Of the 3 domains of usability proposed in the MAUQ, satisfaction was assessed in 28 of the 33 studies, system information arrangement was assessed in 11 of the 33 studies, and usefulness was assessed in 18 of the 33 studies. Usability of mHealth apps was above industry average, with median System Usability Scale scores ranging from 76 to 95 out of 100.
Conclusions: Current analyses of mHealth app usability are substandard. RCTs are rare, and validated questionnaires are infrequently consulted. Of the 3 domains of usability, only satisfaction is regularly assessed. There is significant bias throughout the literature, particularly with regards to conflicts of interest. Future studies should adhere to the MAUQ to assess usability and improve the utility of mHealth apps.

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33. THE EFFECTIVENESS AND CHALLENGES OF E-LEARNING IN SURGICAL TRAINING IN LOW- AND MIDDLE-INCOME COUNTRIES: A SYSTEMATIC REVIEW

Global Health: Annual Review

Authors: Justin Di Lu, Brian H. Cameron
Region / country: Global
Speciality: Surgical Education

E-learning encompasses the use of electronic media, online tools, and technologies in education and has been shown to be generally effective and satisfying for students, compared to traditional methods such as didactic lectures. Within surgical education, there is growing demand for e-learning platforms in low- and middle-income countries (LMICs). A systematic review was conducted to evaluate the effectiveness and challenges of e-learning for surgical trainees in LMICs. Out of 87 studies, five studies met the inclusion criteria and reported either neutral or positive improvements in cognitive and procedural skills, compared to baselines or controls for surgical trainees in LMICs. Using a qualitative synthesis approach, the researchers identified common challenges and barriers, such as low bandwidth, limited connectivity, and poor surgical details, which led to poor knowledge synthesis. This suggests that more emphasis needs to be placed on developing a strong online foundation that could be easily accessed and is user-friendly and intuitive, especially in LMICs. However, the research was limited by the lack of literature surrounding surgical e-learning interventions in LMICs and more research is required in this area.

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34. MECHANICAL AND SURGICAL INTERVENTIONS FOR TREATING PRIMARY POSTPARTUM HAEMORRHAGE

Cochrane Systematic Review – Intervention

Authors: Frances J Kellie, Julius N Wandabwa, Hatem A Mousa, Andrew D Weeks
Region / country: Global
Speciality: Emergency surgery, Obstetrics and Gynaecology

Background: Primary postpartum haemorrhage (PPH) is commonly defined as bleeding from the genital tract of 500 mL or more within 24 hours of birth. It is one of the most common causes of maternal mortality worldwide and causes significant physical and psychological morbidity. An earlier Cochrane Review considering any treatments for the management of primary PPH, has been split into separate reviews. This review considers treatment with mechanical and surgical interventions.
Objectives: To determine the effectiveness and safety of mechanical and surgical interventions used for the treatment of primary PPH.
Search methods: We searched Cochrane Pregnancy and Childbirth's Trials Register, ClinicalTrials.gov, the WHO International Clinical Trials Registry Platform (ICTRP) (26 July 2019) and reference lists of retrieved studies.
Selection criteria: Randomised controlled trials (RCTs) of mechanical/surgical methods for the treatment of primary PPH compared with standard care or another mechanical/surgical method. Interventions could include uterine packing, intrauterine balloon insertion, artery ligation/embolism, or uterine compression (either with sutures or manually). We included studies reported in abstract form if there was sufficient information to permit risk of bias assessment. Trials using a cluster-RCT design were eligible for inclusion, but quasi-RCTs or cross-over studies were not.
Data collection and analysis: Two review authors independently assessed studies for inclusion and risk of bias, independently extracted data and checked data for accuracy. We used GRADE to assess the certainty of the evidence.
Main results: We included nine small trials (944 women) conducted in Pakistan, Turkey, Thailand, Egypt (four trials), Saudi Arabia, Benin and Mali. Overall, included trials were at an unclear risk of bias. Due to substantial differences between the studies, it was not possible to combine any trials in meta-analysis. Many of this review's important outcomes were not reported. GRADE assessments ranged from very low to low, with the majority of outcome results rated as very low certainty. Downgrading decisions were mainly based on study design limitations and imprecision; one study was also downgraded for indirectness. External uterine compression versus normal care (1 trial, 64 women) Very low-certainty evidence means that we are unclear about the effect on blood transfusion (risk ratio (RR) 2.33, 95% confidence interval (CI) 0.66 to 8.23). Uterine arterial embolisation versus surgical devascularisation plus B-Lynch (1 trial, 23 women) The available evidence for hysterectomy to control bleeding (RR 0.73, 95% CI 0.15 to 3.57) is unclear due to very low-certainty evidence. The available evidence for intervention side effects is also unclear because the evidence was very low certainty (RR 1.09; 95% CI 0.08 to 15.41). Intrauterine Tamponade Studies included various methods of intrauterine tamponade: the commercial Bakri balloon, a fluid-filled condom-loaded latex catheter ('condom catheter'), an air-filled latex balloon-loaded catheter ('latex balloon catheter'), or traditional packing with gauze. Balloon tamponade versus normal care (2 trials, 356 women) One study(116 women) used the condom catheter. This study found that it may increase blood loss of 1000 mL or more (RR 1.52, 95% CI 1.15 to 2.00; 113 women), very low-certainty evidence. For other outcomes the results are unclear and graded as very low-certainty evidence: mortality due to bleeding (RR 6.21, 95% CI 0.77 to 49.98); hysterectomy to control bleeding (RR 4.14, 95% CI 0.48 to 35.93); total blood transfusion (RR 1.49, 95% CI 0.88 to 2.51); and side effects. A second study of 240 women used the latex balloon catheter together with cervical cerclage. Very low-certainty evidence means we are unclear about the effect on hysterectomy (RR 0.14, 95% CI 0.01 to 2.74) and additional surgical interventions to control bleeding (RR 0.20, 95% CI 0.01 to 4.12). Bakri balloon tamponade versus haemostatic square suturing of the uterus (1 trial, 13 women) In this small trial there was no mortality due to bleeding, serious maternal morbidity or side effects of the intervention, and the results are unclear for blood transfusion (RR 0.57, 95% CI 0.14 to 2.36; very low certainty). Bakri balloon tamponade may reduce mean 'intraoperative' blood loss (mean difference (MD) -426 mL, 95% CI -631.28 to -220.72), very low-certainty evidence. Comparison of intrauterine tamponade methods (3 trials, 328 women) One study (66 women) compared the Bakri balloon and the condom catheter, but it was uncertain whether the Bakri balloon reduces the risk of hysterectomy to control bleeding due to very low-certainty evidence (RR 0.50, 95% CI 0.05 to 5.25). Very low-certainty evidence also means we are unclear about the results for the risk of blood transfusion (RR 0.97, 95% CI 0.88 to 1.06). A second study (50 women) compared Bakri balloon, with and without a traction stitch. Very low-certainty evidence means we are unclear about the results for hysterectomy to control bleeding (RR 0.20, 95% CI 0.01 to 3.97). A third study (212 women) compared the condom catheter to gauze packing and found that it may reduce fever (RR 0.47, 95% CI 0.38 to 0.59), but again the evidence was very low certainty. Modified B-Lynch compression suture versus standard B-Lynch compression suture (1 trial, 160 women) Low-certainty evidence suggests that a modified B-Lynch compression suture may reduce the risk of hysterectomy to control bleeding (RR 0.33, 95% CI 0.11 to 0.99) and postoperative blood loss (MD -244.00 mL, 95% CI -295.25 to -192.75).
Authors' conclusions: There is currently insufficient evidence from RCTs to determine the relative effectiveness and safety of mechanical and surgical interventions for treating primary PPH. High-quality randomised trials are urgently needed, and new emergency consent pathways should facilitate recruitment. The finding that intrauterine tamponade may increase total blood loss > 1000 mL suggests that introducing condom-balloon tamponade into low-resource settings on its own without multi-system quality improvement does not reduce PPH deaths or morbidity. The suggestion that modified B-Lynch suture may be superior to the original requires further research before the revised technique is adopted. In high-resource settings, uterine artery embolisation has become popular as the equipment and skills become more widely available. However, there is little randomised trial evidence regarding efficacy and this requires further research. We urge new trial authors to adopt PPH core outcomes to facilitate consistency between primary studies and subsequent meta-analysis.

35. FRUGAL INNOVATION FOR GLOBAL SURGERY: LEVERAGING LESSONS FROM LOW- AND MIDDLE-INCOME COUNTRIES TO OPTIMISE RESOURCE USE AND PROMOTE VALUE-BASED CARE

Rcs Bulletin

Authors: A Steyn, A Cassels-Brown, DF Chang, H Faal, R Vedanthan, R Venkatesh, CL Thiel
Region / country: Global
Speciality: Health policy, Other

Limited or inconsistent access to necessary resources creates many challenges for delivering quality medical care in low- and middle-income countries (LMICs). These include funding and revenue, skilled clinical and allied health professionals, administrative expertise, reliable community infrastructure (eg water, electricity), functioning capital equipment and sufficient surgical supplies. Despite these challenges, some surgical care providers manage to provide cost effective, high quality care, offering lessons not only for other LMICs but also for high-income countries (HICs) that are working towards increasing value-based care. Examples would be how to optimise the consumption of resources, and reduce the environmental and public health burden of surgical care.
Owing to the liberal utilisation of capital equipment and single-use supplies, surgical care in HICs is increasingly recognised as a significant source of greenhouse gases and other environmental impacts that adversely affect human health. Regulations require many potentially reusable supplies and drugs to be discarded after single use. Supply manufacturers may label drugs or products as single-use to increase profit, reduce liability or facilitate regulatory approval. Many HICs struggle to increase the value of care while maximising quality and outcomes, and minimising cost and resource use.

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