General Medicine

Use of herbal medicine by caregivers in the management of children with sickle cell disease in Mulago National Referral Hospital - Uganda.

Abstract: The study investigated the use of herbal medicines among caregivers of children with sickle cell disease attending Mulago National Referral Hospital in Uganda. The authors note that SCD is a major public-health problem in sub-Saharan Africa and that complementary and alternative medicines are commonly used in chronic disease. The study examined the prevalence of herbal medicine use and factors associated with its use among caregivers. The findings highlight the importance of understanding caregivers' treatment practices and beliefs when designing comprehensive SCD care in Uganda.

Reference

Lubega M, Osingada CP, Kasirye P. Use of herbal medicine by caregivers in the management of children with sickle cell disease in Mulago National Referral Hospital - Uganda. Pan Afr Med J. 2021;39:163. doi:10.11604/pamj.2021.39.163.20740.

Hydroxyurea therapy in adult Nigerian sickle cell disease: a monocentric survey on pattern of use, clinical effects and patient's compliance.

Abstract: This Nigerian study assessed the pattern of hydroxyurea use, clinical and haematological effects, and patient compliance among adults with SCD. The study was undertaken because hydroxyurea has important therapeutic potential but its use in African settings requires consideration of local clinical practice and patient adherence. The authors concluded that hydroxyurea can provide important clinical and haematological benefits, while adherence and appropriate monitoring remain important considerations in its use.

Reference

Adewoyin AS, Oghuvwu OS, Awodu OA. Hydroxyurea therapy in adult Nigerian sickle cell disease: a monocentric survey on pattern of use, clinical effects and patient's compliance. Afr Health Sci. 2017;17(3):730-739. doi:10.4314/ahs.v17i3.20

Sickle cell disease: reappraisal of the role of foetal haemoglobin levels in the frequency of vaso-occlusive crisis.

Abstract: This retrospective longitudinal study from the Korle-Bu Teaching Hospital in Ghana examined the relationship between foetal haemoglobin (HbF) levels and frequency of vaso-occlusive crises in adults with SCD. Eighty-three patients aged 15–65 years were studied over 30 months. Higher HbF levels were associated with fewer crises, supporting the role of HbF in modifying disease severity. However, the investigators could not establish a definitive threshold HbF level that reliably predicts protection from crises.

Reference

Antwi-Boasiako C, Frimpong E, Ababio GK, Dzudzor B, Ekem I, Gyan B, et al. Sickle cell disease: reappraisal of the role of foetal haemoglobin levels in the frequency of vaso-occlusive crisis. Ghana Med J. 2015;49(2):102-106. doi:10.4314/gmj.v49i2.7.

Frequency of red blood cell allo-immunization in transfused patients with sickle cell disease in Africa: a systematic review with meta-analysis.

Abstract: This systematic review and meta-analysis examined the frequency of red blood cell allo-immunisation among transfused patients with SCD in Africa. Blood transfusion is an important treatment for severe SCD complications but repeated transfusion can result in allo-antibody formation, potentially complicating future transfusions. The review highlights allo-immunisation as an important issue for transfusion services caring for African patients with SCD and provides evidence relevant to improving transfusion strategies and blood-matching practices.

Reference

Nwagha TU, Ugwu AO, Nweke M. Frequency of red blood cell allo-immunization in transfused patients with sickle cell disease in Africa: a systematic review with meta-analysis. Afr Health Sci. 2024;24(3):417-429. doi:10.4314/ahs.v24i3.46.

Caregivers' beliefs about hydroxyurea influence its usage among children with sickle cell disease: a cross-sectional study in Dar-es-Salaam, Tanzania.

Abstract: This cross-sectional study conducted in Dar es Salaam examined caregivers' beliefs about hydroxyurea and how these beliefs influence its use among children with SCD. The study is particularly relevant to implementation of evidence-based SCD treatment in African settings because availability of effective medicines does not necessarily translate into their uptake. Understanding caregiver perceptions, concerns and treatment beliefs can help clinicians and programmes develop better counselling and adherence interventions.

Reference

Ally M, Jonathan A, Yonazi M, Balandya E. Caregivers' beliefs about hydroxyurea influence its usage among children with sickle cell disease: a cross-sectional study in Dar-es-Salaam, Tanzania. Pan Afr Med J. 2025;52:31. doi:10.11604/pamj.2025.52.31.45975.

Exploring the quality of life of caregivers of children with sickle cell disease in a secondary health facility in Ghana.

Abstract: This qualitative study explored the burden experienced by caregivers of children with SCD at a secondary health facility in Ghana. Eleven caregivers participated. Four major dimensions of burden emerged: financial, psychological, social and physical. Financial and psychological burdens had particularly substantial effects on caregivers' quality of life. The authors argue that support for families affected by SCD should extend beyond medical treatment to include psychosocial and other forms of caregiver support.

Reference

Salamat ST, Mahama H, Asabi J, Asante L. Exploring the quality of life of caregivers of children with sickle cell disease in a secondary health facility in Ghana. Ghana Med J. 2025;59(4):219-226. doi:10.4314/gmj.v59i4.6.

Treatment for sickle cell disease in Africa: should we invest in haematopoietic stem cell transplantation?

Abstract: This Pan African Medical Journal commentary examines the potential role of haematopoietic stem-cell transplantation in the treatment of SCD in Africa. The authors discuss the substantial burden of SCD on the continent and consider transplantation alongside other disease-modifying approaches, including hydroxyurea. They highlight the need to consider the feasibility, cost, infrastructure and specialist capacity required for transplantation within African health systems.

Reference

Pule G, Wonkam A. Treatment for sickle cell disease in Africa: should we invest in haematopoietic stem cell transplantation? Pan Afr Med J. 2014;18:46. doi:10.11604/pamj.2014.18.46.3923.

Implications of COVID-19 infections in sickle cell disease.

Abstract: This review discusses the implications of COVID-19 infection in people living with SCD, with particular attention to the African context. The authors highlight the substantial burden of SCD in sub-Saharan Africa and the increased vulnerability of affected individuals to complications such as acute chest syndrome, pulmonary complications and sepsis. The article emphasises the challenges of managing SCD during infectious disease outbreaks in resource-constrained settings.

Reference

John NA, John JE. Implications of COVID-19 infections in sickle cell disease. Pan Afr Med J. 2020;36:81. doi:10.11604/pamj.2020.36.81.23776.

Health Professions Education

Emotional impact of cadaver dissection: a survey in a medical college in western Nepal..

Abstract: Objectives: Adverse physical and psychological effects to human dissection have been reported in many studies. In Nepal, the basic science subjects are taught in an integrated manner in the first four semesters of the MBBS course. Studies on the attitudes of medical students towards anatomy dissection are lacking in Nepal. The present study was carried out to obtain information on the present and initial perception of medical students on exposure to anatomy dissection and the association, if any, of the perception with demographic factors. Methods: The study was carried out among the first, second and third semester students at the Manipal College of Medical Sciences, Pokhara using the appraisal of life events (ALE) scale in February 2005. Sixty-three first semester, 57 second and 65 third semester students successfully completed the questionnaire and their responses were taken up for analysis. Information on sex, age, nationality, religion, food habits, occupation of parents and selection procedures of respondents was collected. The parameters loss, challenge and threat were measured on first exposure to dissection and at the time of the study. The scores were compared among different categories of students ($p< 0.05$). Results: 185 of the 225 students (82.2%) successfully completed the questionnaire. The median initial loss, challenge and threat scores were 2, 19 and 4 respectively. The median present loss, challenge and threat scores were 1, 20 and 0 respectively. The present threat score was higher among second semester students. The initial loss was higher among Indians and the present challenge score was higher among vegetarians. Conclusions: The loss and threat score were low compared to that reported in a previous study. The challenge scores were higher than those reported previously. Majority of students considered anatomy dissection as a significant life experience and one which was largely positive. Further studies with a larger student population and in other medical colleges are required.

Reference

Vijayabhaskar P, Shankar PR, Dubey AK. Emotional impact of cadaver dissection: a survey in a medical college in western Nepal. Kathmandu Univ Med J (KUMJ). 2005 Apr-Jun;3(2):143-8. PMID: 16415610..

Medical students' attitudinal changes towards cadaver dissection: a longitudinal study.

Abstract: Background: Recently, not only the medical school curriculum but also medical students' attitude towards cadaver-based learning of anatomy has changed. This investigation is therefore designed to analyse students' attitudes towards human cadaveric dissection before and after exposure to dissection. Methods: A longitudinal survey was conducted among second year medical students in 2010 at the college of Medicine and Health Sciences, University of Gondar. All second year medical students (n=147) were included in the study where their attitudes were surveyed at three time points (one week prior to dissection session, a week after the initiation of dissection and eight weeks after the second survey). Three standardized and pretested questionnaires prepared in English were used to collected relevant data from the subjects. Results: Out of the 147 students 85.7% were males. The subjects' age ranged between 18 and 23 with a mean and standard deviation of 19.5±1 years. This study has revealed that among majority of the students fear and nausea have decreased while their interest and excitement has increased on subsequent exposure to dissection ($P<0.05$). About 75% of students considered the dissection room as slightly or highly stressful. Smell of the cadaver and eye irritation as a result of the chemicals in it were the major aspects identified as making the dissecting room stressful. The result also showed that almost all (99%) considered cadaver dissection had very important educational value for anatomy learning.

Conclusion: In the majority of the students fear and nausea had decreased while interest and excitement had increased on subsequent exposure to dissection. It also showed that chemical odour and eye irritations were the leading factors which create discomfort in the dissection room even though anatomical dissection by itself was not considered as a stressor. Thus, instructors are recommended to adequately prepare students mentally and emotionally before the commencement of the dissection session for an exciting and stress free anatomy learning though dissection.

Reference
Mulu A, Tegabu D. Medical students' attitudinal changes towards cadaver dissection: a longitudinal study. Ethiop J Health Sci. 2012 Mar;22(1):51-8. PMID: 23066333; PMCID: PMC3448296.

Medical students as research participants: Student experiences, questionnaire response rates and preferred modes.

Abstract: Background. Research projects frequently include students, a potentially vulnerable population, as participants. Objectives. To determine University of the Free State (UFS) medical students' experiences as research participants. Response rates to and preferences for hard copy and electronic questionnaires were also investigated. Methods. All 804 UFS undergraduate medical students in 2020 were approached to participate in this cross-sectional survey. Fourth- and fifth-year students and one-half of the third-year class were approached in person to complete anonymous hard copy questionnaires in a class setting. First- and second-year students and the other half of the third-year class were contacted electronically to complete anonymous electronic questionnaires. Results. Response rates to hard copy questionnaires were at least ~45% of the entire year group (and >70% of those to whom the questionnaire was distributed in class) compared with approximately a third of those contacted electronically. Students who responded to electronic questionnaires preferred electronic completion, whereas those who responded to hard copy questionnaires preferred the hard copy format, except fifth-year students. The majority of students (except those in their first year) had previously been approached to participate in research projects. Between a fifth and a third of all year groups indicated that they had refused participation at least once. More than a third of fifth-year students experienced insufficient time to decide on participation. Up to a quarter of third- to fifth-year groups had felt pressurised to participate. Conclusion. Hard copy questionnaires in class, the preferred data collection method for many students, produced better response rates but placed potential pressure on students to participate.

Reference
Joubert, G. ., Steinberg, W. J. ., & van der Merwe, L. J. . (2022). Medical students as research participants: Student experiences, questionnaire response rates and preferred modes. African Journal of Health Professions Education, 14(3), 106–110. Retrieved from https://www.ajol.info/index.php/ajhpe/article/view/235206.

Nursing students' perceptions of support and active learning regarding simulation-based education in Lesotho: A quantitative study.

Abstract: Background. Simulation has taken centre stage in health sciences education in the context of the increasing adoption of a competency-based curriculum. Simulation replicates facets of the real world in an interactive manner that allows students to learn clinical skills and develop clinical reasoning skills in a safe learning environment. Facilitators have a responsibility to provide adequate instructional and psychological support to the students, while facilitating active and self-directed learning in the simulation environment. Objective. To explore and describe students' perceptions of support and active learning regarding simulation-based education (SBE) in Lesotho. Methods. A quantitative descriptive exploratory study was conducted using a validated questionnaire. A total of 275 nursing students participated in the study. A stratified systematic random sampling method was used and data were analysed using SPSS version 27. Results. The majority of participants (87.9%) had a positive perception of support that was offered prior, during and after simulation, which they appreciated. Active learning was also perceived positively, as most of the participants indicated that they actively participated in, and not merely observed, simulation. The results showed significant associations between an opportunity given to students to discuss simulation objectives with the teacher and various institutions ($p<0.05$ ($p=0.01$)). Institutions with trained simulation facilitators provided students the opportunity to discuss simulation objectives with their teacher. Conclusion. The study showed that student support and active learning are essential when conducting SBE. Supporting students and actively involving them in the learning process lead to effective learning.

Reference
Moabi PS, Mtshali NG. Nursing students' perceptions of support and active learning regarding simulation-based education in Lesotho: A quantitative study. Afr Jrnl Health Prof Educ [Internet]. 2022 Nov. 1 [cited 2026 Sep. 16];14(3):111-4. Available from: https://www.ajol.info/index.php/ajhpe/article/view/235207.

Student review of doctor-patient communication skills training in a South African undergraduate medical programme.

Abstract: Background. Barriers to the training of doctor-patient communication in the South African (SA) context have been well explored through qualitative research at several SA medical schools. However, this aspect of training has not been reviewed in a systematic way by a large number of students. A student review of doctor-patient communication skills training in the undergraduate medical programme of a medical school in SA was obtained to improve training and identify further research needs. Objective. To investigate doctor-patient communication skills training in the undergraduate programme of a medical school in SA to identify shortcomings and further research needs. Methods. A descriptive, cross-sectional design was used. Data were collected through an anonymous questionnaire based on Harden's extended vision of the curriculum. Printed anonymous questionnaires, distributed to all the fourth- and fifth-year undergraduate medical students, were analysed quantitatively. Open-ended questions were analysed qualitatively using grounded theory. Results. The sample comprised 106/132 fifth-year students (response rate 80.3%) and 65/120 fourth-year students (response rate 54.2%). Frequent training in history-taking was reported by >75% of students, while >60% reported infrequent training in breaking bad news. More than 50% of participants indicated that senior doctors seldom or never modelled patient-centred communication in the clinical teaching milieu. Students preferred experiential learning to didactic methods. Conclusion. Medical students want to see patient-centred communication unequivocally modelled in the clinical setting. A greater

emphasis on practical training in context-specific communication skills is required. Positive role-modelling is needed in the clinical environment.

Reference

Swinfen D, Labuschagne M, Joubert G. Student review of doctor-patient communication skills training in a South African undergraduate medical programme. Afr Jrnl Health Prof Educ [Internet]. 2022 Nov. 1 [cited 2026 Sep. 16];14(3):115-21. Available from: https://www.ajol.info/index.php/ajhpe/article/view/235208.

Maternal Health

Maternal and child healthcare coverage and trends: refugee vs. non-refugee districts in Uganda

Abstract: Background: Uganda hosts the largest refugee population in Africa, placing considerable pressure on district health systems. This study examined differences in maternal and child health (MCH) coverage between refugee-hosting and non-refugee-hosting districts and assessed the influence of government financing and health-system performance. Methods: The researchers retrospectively analysed routine health-facility MCH data from Uganda's District Health Information System and district-level Primary Health Care expenditure data from 2020–2023. Indicators included antenatal care, institutional delivery, postnatal care and childhood immunisation. Results: Refugee-hosting districts generally had modestly higher coverage of antenatal care, institutional deliveries, postnatal care, measles vaccination and the composite coverage index. Government expenditure and health-system performance were positively associated with MCH coverage. Adjusted analysis showed that ANC4 coverage was 7.4 percentage points higher in refugee-hosting districts. Conclusion: Routine health information can be used to monitor MCH coverage at district level. Government investment and health-system performance appear important determinants of MCH service coverage.

Reference

Nsubuga R, Kananura RM, Wasswa R, Birabwa C, Ogwal J, Dotse-Gborgbortsi W, et al. Maternal and child healthcare coverage and trends: refugee vs. non-refugee districts in Uganda. Confl Health. 2026;20:42. doi:10.1186/s13031-026-00780-7. (Springer Link)

Motherhood in crisis: lived experiences of mothers with babies admitted to a neonatal intensive care unit in Northern Uganda

Abstract: Background: Mothers whose newborns are admitted to neonatal intensive care units (NICUs) often experience emotional distress, uncertainty and separation from their babies. Little is known about these experiences in low-resource settings in Northern Uganda. Methods: A descriptive phenomenological study was conducted among 10 mothers whose babies had been admitted to the NICU at Lira Regional Referral Hospital for at least three days. In-depth interviews were conducted and analysed thematically. Results: Four major themes emerged: emotional grief related to the baby's hospitalisation, the burden of hospitalisation, satisfaction with healthcare received, and changes in the maternal role and support systems. Mothers described fear, uncertainty and hopelessness. Financial hardship, prolonged hospitalisation and separation from family intensified these experiences. Compassionate healthcare, spirituality and hope were important coping mechanisms. Conclusion: Maternal experiences during NICU admission are strongly influenced by communication with healthcare workers, the baby's clinical condition, hospital requirements and social support. Improved communication, essential supplies and interpersonal support may improve maternal experiences.

Reference

Namukwana B, Abeja CJ, Ekung E, Nabasirye CK, Nyeko R, Auma AG, et al. Motherhood in crisis: lived experiences of mothers with babies admitted to a neonatal intensive care unit in Northern Uganda. BMC Pregnancy Childbirth. 2026;26. doi:10.1186/s12884-026-09620-1. (Springer Link).

Acceptability and uptake of COVID-19 vaccines among pregnant and lactating women seeking services at a tertiary public hospital in Kampala, Uganda

Abstract: Background: Although vaccination during pregnancy and lactation is recommended for several vaccines, evidence on COVID-19 vaccine acceptance and uptake among pregnant and lactating women in sub-Saharan Africa remains limited. Methods: A cross-sectional study was conducted among 424 pregnant and lactating women attending maternal and child health services at Kawempe National Referral Hospital in Kampala. Data were collected between May and July 2023 and analysed using modified Poisson regression. Results: Approximately 51.6% of participants had received at least one COVID-19 vaccine dose, while 48.4% were willing to receive the vaccine. Only 2.4% of lactating women had received COVID-19 vaccination and none had received it during pregnancy. Previous COVID-19 testing and having a vaccinated household member were associated with vaccine uptake. Conclusion: COVID-19 vaccine acceptance and uptake among pregnant and lactating women remained suboptimal despite relatively high acceptance of other maternal vaccines. The authors recommend targeted communication, addressing safety concerns and using trusted information sources to improve vaccine confidence.

Reference

Katana EB, Laker Odongpiny EA, Simbwa BN, Nsubuga EJ, Namayanja J, Muhindo R, et al. Acceptability and uptake of COVID-19 vaccines among pregnant and lactating women seeking services at a tertiary public hospital in Kampala, Uganda. BMC Pregnancy Childbirth. 2026;26. doi:10.1186/s12884-026-09708-8. (Springer Link)

Person-centered care across the maternal health continuum: evidence from a cross-sectional analysis of baseline data from the CPIPE trial in Kenya and Ghana

Abstract: Background: Person-centred maternal healthcare encompasses respectful, responsive and supportive care throughout pregnancy, childbirth and the postpartum period. This study assessed the extent of person-centred care in Kenya and Ghana. Methods: The study analysed cross-sectional baseline data from 1,999 postpartum women in Kenya and Ghana.

Validated scales assessed person-centred antenatal, maternity and postnatal care. Results: Mean scores were approximately 71 out of 100 across antenatal, maternity and postnatal care. Communication and autonomy were the lowest-performing domains. Fewer than 20% of women experienced optimal person-centred care across any phase of the maternal care continuum. Higher socioeconomic status, care in health centres or faith-based facilities and continuity of care were associated with higher scores. Conclusion: Person-centred maternal healthcare was suboptimal across the continuum, particularly among vulnerable women. Provider training, supportive facility environments, accountability mechanisms and continuity of care were identified as potential approaches for improvement. (ScienceDirect).

Reference

Afulani PA, Okiring J, Ongeri L, Aborigo RA, Ogolla BA, Moro A, et al. Person-centered care across the maternal health continuum: evidence from a cross-sectional analysis of baseline data from the CPIPE trial in Kenya and Ghana. Lancet Reg Health Afr. 2026;6:100074. doi:10.1016/j.lanafr.2026.100074. (ScienceDirect).

Mapping neonatal vulnerability using the Small Vulnerable Newborn (SVN) framework-secondary analysis of PRISMA Pakistan study.

Abstract: Background: Despite progress in global neonatal mortality, South Asia continues to lag behind in reducing neonatal deaths. The Small Vulnerable Newborn (SVN) framework has been proposed to integrate preterm birth (PT), small for gestational age (SGA), and low birth weight. However, there is lack of data on the burden and risk factors of SVN in Pakistan, a country which has one of the highest neonatal deaths globally. This study aimed to estimate the incidence of SVN, and identify risk factors among pregnant women in Pakistan. Methods: This secondary analysis leverages data from PRISMA (Pregnancy Risk Infant Surveillance, and Measurement Alliance)—Pakistan. Women presenting ≤20 weeks gestation and, with birth weights recorded within 72 h post-delivery were analysed. Newborns were classified into categories of SVN. Multinomial and binomial regression models were used to examine associations between maternal characteristics and SVN categories, as well as neonatal mortality. Findings: The overall incidence of SVN was 46% (n = 771) with Term + SGA being the most common category (n = 461, 27.5%), followed by PT + AGA (n = 210, 12.5%) and PT + SGA (n = 41, 2.5%). Maternal undernutrition (MUAC <23 cm) increased the risk of SVN by 17% (aRR 1.17, 95% CI 1.05–1.31). SVN also emerged as a significant predictor of neonatal mortality, quadrupling the risk (aRR 4.52, 95% CI 2.42–8.46). Interpretation: This study adds to the growing body of evidence on Pakistan's alarming burden of SVN, with every second newborn at risk. Identification and targeted interventions are imperative to mitigate adverse birth outcomes and optimize child growth and development..

Reference

Malik H, Yazdani N, Kumari S, Jamal SA, Kashif M, Mazhar A, Hoodbhoy Z. Mapping neonatal vulnerability using the Small Vulnerable Newborn (SVN) framework-secondary analysis of PRISMA Pakistan study. Lancet Reg Health Southeast Asia. 2025 Jan 25;33:100535. doi: 10.1016/j.lansea.2025.100535. PMID: 39911163; PMCID: PMC11795797.

Surgery

Systematic review of the Lancet Commission on Global Surgery indicators with quality assessment of modelled estimates.

Abstract: Background: The Lancet Commission on Global Surgery defined six indicators with 2030 targets to monitor national surgical-system performance. This systematic review evaluated national reporting and achievement of these benchmarks and assessed the quality of modelled estimates. Methods: Seven bibliographic databases and government websites from 48 countries committed to National Surgical, Obstetric, and Anaesthesia Plans were searched. Studies reporting national estimates of the Commission's indicators were included. Results: Of 4245 records identified, 44 studies were included. Access to timely essential surgery was reported for 94 of 217 countries, with 39% meeting the benchmark. Specialist surgical workforce density was reported for 167 countries, with 50.3% meeting the benchmark. Surgical volume was reported for 124 countries, with 31.5% meeting the benchmark. Financial-risk-protection indicators were reported for only five countries, and none met either benchmark. Modelled studies frequently lacked transparency regarding data sources, statistical methods and validation. Conclusion: Reporting of global surgery indicators remains sparse and uneven, particularly in low- and middle-income countries. Integrating surgical indicators into national health information systems should be a priority.

Reference

Anyomih TT, Agbeko AE, Aregawi AB, Chu K, Crawford R, Harrison EM, et al. Systematic review of the Lancet Commission on Global Surgery indicators with quality assessment of modelled estimates. Br J Surg. 2026;113(3):znaf289. doi:10.1093/bjs/znaf289. (PubMed)

NIHR Global Health Research Unit on Global Surgery and the GlobalSurg Collaborative. Safety and equity in scaling minimally invasive surgery worldwide in 109 countries using cholecystectomy as a tracer procedure: a prospective cohort study.

Abstract: Background: Minimally invasive surgery is expanding worldwide, but evidence on how to implement it safely and equitably across different health systems remains limited. This study investigated health-system factors associated with safe implementation using minimally invasive cholecystectomy as a tracer procedure. Methods: A multicentre prospective cohort study was conducted among adults undergoing cholecystectomy in 1218 hospitals across 109 countries. More than 10,000 healthcare workers collected data using measures mapped to WHO health-system building blocks and the Global Patient Safety Action Plan. Results: Among 52,187 patients, adjusted procedure-specific complication rates varied 40-fold between hospitals, from 0.3% to 12.1%. National income level was not independently associated with complications. Local simulation-based training facilities, intraoperative safety and communication strategies, and on-site CT diagnostic capability were

associated with safer outcomes. Conclusion: Safe implementation of minimally invasive surgery varies considerably between hospitals worldwide. Local simulation-based training, safety systems and diagnostic capacity are important modifiable factors for improving surgical safety, particularly in resource-constrained settings.

Reference

NIHR Global Health Research Unit on Global Surgery and the GlobalSurg Collaborative. Safety and equity in scaling minimally invasive surgery worldwide in 109 countries using cholecystectomy as a tracer procedure: a prospective cohort study. Lancet Glob Health. 2026;14(2):e199-e212. doi:10.1016/S2214-109X(25)00476-0. (PubMed)

Multivessel coronary artery bypass grafting via small thoracotomy versus sternotomy (MIST): an investigator-initiated, international, open-label, randomised controlled trial.

Abstract: Background: Coronary artery bypass grafting traditionally requires median sternotomy. Minimally invasive cardiac surgery through a small thoracotomy might improve recovery, but randomised evidence has been limited. Methods: MIST was an international randomised controlled trial conducted at seven centres in Canada, India, China, Germany, the USA and Japan. Adults with multivessel coronary artery disease who were suitable for either minimally invasive CABG or conventional sternotomy CABG were randomly assigned to the two approaches. The primary outcome was patient-reported physical recovery at one month using the SF-36 Physical Component Summary score. Results: Of 176 patients enrolled, 170 were randomised: 86 to minimally invasive CABG and 84 to sternotomy CABG. At one month, the minimally invasive group had a higher mean SF-36 physical-component score than the sternotomy group. There were no deaths or strokes in either group through 12 months.Conclusion: In selected patients undergoing multivessel CABG, minimally invasive surgery through a small thoracotomy was associated with improved patient-reported physical recovery at one month without an apparent safety penalty through 12 months. (ScienceDirect)

Reference

Ruel M, Nambala S, Guo MH, Verevkin A, Rabindranauth P, Kikuchi K, et al. Multivessel coronary artery bypass grafting via small thoracotomy versus sternotomy (MIST): an investigator-initiated, international, open-label, randomised controlled trial. Lancet. 2026;408(10556):711-720. doi:10.1016/S0140-6736(26)01288-2. (PubMed).

Robotic-arm-assisted versus conventional total knee replacement (RACER-Knee): a pragmatic, multicentre, participant-masked and assessor-masked, superiority, randomised controlled trial.

Abstract: Background: Robotic systems are increasingly used during total knee replacement, but whether they improve clinical outcomes compared with conventional instruments remains uncertain. This study assessed the clinical efficacy and cost-effectiveness of robotic-arm-assisted knee replacement. Methods: A pragmatic, participant- and assessor-masked randomised controlled trial was conducted at ten hospitals in Great Britain involving 33 surgeons. Patients with advanced knee osteoarthritis were randomly assigned to conventional or Mako robotic-arm-assisted total knee replacement. The primary outcome was the Forgotten Joint Score at 12 months. Results: Of 807 patients screened, 339 were randomised: 168 to robotic-assisted surgery and 171 to conventional surgery. At 12 months, the mean Forgotten Joint Score was 49.2 in the robotic group and 50.2 in the conventional group. The adjusted difference was −1.5 points (95% CI −7.5 to 4.5; p=0.62). Serious adverse events occurred in 16 participants in each group. Conclusion: In this trial, robotic-assisted knee replacement was more costly and did not provide a clinically meaningful improvement in patient-reported outcomes at 12 months compared with conventional knee replacement.

Reference

Parsons H, Metcalfe A, Griffin J, et al. Robotic-arm-assisted versus conventional total knee replacement (RACER-Knee): a pragmatic, multicentre, participant-masked and assessor-masked, superiority, randomised controlled trial. Lancet. 2026;408(10558):924-934. doi:10.1016/S0140-6736(26)00986-4. (ScienceDirect).

Volume-controlled ventilation versus pressure-controlled ventilation with volume guarantee in emergency surgery: a randomized controlled trial.

Abstract: Background: Emergency laparotomy carries a high risk of postoperative pulmonary complications. Pressure-controlled ventilation with volume guarantee may improve respiratory mechanics compared with conventional volume-controlled ventilation, but its effect on patient outcomes is uncertain. Methods: In this single-centre randomised controlled trial in India, 106 adults undergoing emergency laparotomy were assigned to pressure-controlled ventilation with volume guarantee or conventional volume-controlled ventilation. The primary outcome was postoperative pulmonary complications within seven days.Results: The median postoperative pulmonary-complication score did not differ significantly between groups. Pulmonary complications occurred in 3.8% of patients receiving pressure-controlled ventilation with volume guarantee compared with 17% receiving conventional volume-controlled ventilation. The pressure-controlled strategy improved respiratory-system compliance and reduced mechanical power and driving pressure during surgery. Conclusion: Pressure-controlled ventilation with volume guarantee improved intraoperative respiratory mechanics but did not significantly reduce postoperative pulmonary complications. The relatively small sample means that larger studies are needed to establish whether the physiological improvements translate into meaningful clinical benefits.

Reference

Jassal N, Bhattacharjee S, Choudhary N, Duggal S, Prasad G, Kashyap L, et al. Volume-controlled ventilation versus pressure-controlled ventilation with volume guarantee in emergency surgery: a randomized controlled trial. Surgery. 2026;198:110438. doi:10.1016/j.surg.2026.110438. (PubMed)