

SELECTED ABSTRACTS FROM PUBMED

1. *Dorsey ER, Kiebertz K. The triple aim of clinical research. Clin Trials. 2021 Aug;18(4):511-513. doi: 10.1177/17407745211001522. Epub 2021 Apr 20.*

ABSTRACT

The proposed triple aim of health care-enhanced patient experience, improved population health, and reduced per capita costs-can be applied to clinical research. A triple aim for clinical research would (1) improve the individual research participant's experience; (2) promote the health of populations; and (3) reduce per capita costs of clinical research. Such an approach is possible by designing trials around the needs of participants rather than sites, embracing digital measures of health, and advancing decentralized studies. Recent studies, including those evaluating therapies for COVID-19, have demonstrated the value of such an approach. Accelerating the adoption of these methods can help fulfill this new triple aim of clinical research.

Keywords: Clinical trials; clinical trials as a topic; digital technology; patient-centered care; telemedicine.

2. *Akhtar M, Irfan A. Exploring clinical research efficacy of teaching and practicing medical professionals in Pakistan. Pak J Med Sci. May-Jun 2021;37(3):851-857. doi: 10.12669/pjms.37.3.2395.*

ABSTRACT

Objective: The current study aimed to explore clinical research efficacy of teaching and practicing medical professionals in Pakistan. The role of socio-demographic factors in this context was also investigated.

Methods: This study using cross-sectional research design was carried out from August to December 2019. A sample of teaching and practicing medical professionals (N=96) was collected through purposive sampling from Islamabad and Rawalpindi. Clinical Research Appraisal Inventory (CRAI) was used along with the demographic datasheet. Research data was analyzed using Statistical Package for Social Sciences (SPSS-21).

Results: The results of the study revealed that teaching and practicing medical professionals feel most competent in 'collaborating with others' while the research area in which they feel least competent is 'securing funds for a study'. It was found that there are significant differences in the research efficacy of teaching and practicing medical professionals with reference to age ($p<0.00$), gender ($p<0.01$), designation ($p<0.00$), number of articles published ($p<0.00$), number of articles under review ($p<0.03$), number of articles submitted ($p<0.03$), and number of funded projects completed ($p<0.02$). Satisfaction with salary and number of hours at work per week have no impact on their research efficacy.

Conclusions: Findings have implications for policy makers and medical institutions to promote research skills in teaching and practicing medical professionals.

Keywords: Competence; Demographic factors; Medical education; Physicians; Research.

3. *Coleman E, O'Sullivan L, Crowley R, Hanbidge M, Driver S, Kroll T, et al. Preparing accessible and understandable clinical research participant information leaflets and consent forms: a set of guidelines from an expert consensus conference. Res Involv Engagem. 2021 May 18;7(1):31. doi: 10.1186/s40900-021-00265-2.*

ABSTRACT

Background: In line with Good Clinical Practice and the Declaration of Helsinki, it is the investigator's responsibility to ensure that research participants are sufficiently informed, to enable the provision of informed consent. The Participant Information Leaflet/Informed Consent Form is key to facilitating this communication process. Although studies have indicated that clinical research Participant Information Leaflets/Informed Consent Forms are not optimal in terms of accessibility, there is little or no specific guidance available. The aim of this research was to propose and agree a set of guidelines for academic researchers and sponsors for preparing accessible and understandable Participant Information Leaflets/Informed Consent Forms.

Methods: A literature review identified guidance for the preparation of patient-facing documents. Following critical appraisal, key recommendations were extracted and a set of recommendations which can be applied to clinical research Participant Information Leaflets/Informed Consent Forms were prepared. These recommendations were evaluated and amended by an Expert Consensus Conference consisting of a group of key stakeholders. The stakeholders included members of a Research Ethics Committee (both lay and expert), a patient advocate, experienced clinical researchers, a plain English editor and a Data Protection Officer. Consensus was reached regarding a final set of recommendations.

Results: 44 recommendations were agreed upon and grouped into five categories: Layout, Formatting, Content, Language and Confirming Readability. These recommendations aimed to maximize accessibility for lay participants, including readers with dyslexia, literacy or numeracy challenges, thereby improving the quality of the consent process.

Conclusions: More empirical research is needed to further improve the informed consent process for research participants. However, these recommendations are informed by the current literature and have been ratified by expert stakeholders. It is hoped that these recommendations will help investigators and sponsors to consistently and efficiently produce more accessible clinical research Participant Information Leaflets/Informed Consent Forms.

Keywords: Clinical research; Clinical trials; Informed consent; Participant information leaflets; Patient and public involvement; Patient information leaflets.

4. *Kaul V, de Moraes AG, Khateeb D, Greenstein Y, Winter G, Chae J, et al. Medical Education During the COVID-19 Pandemic. Chest. 2021 May;159(5):1949-1960. doi: 10.1016/j.chest.2020.12.026. Epub 2020 Dec 30.*

ABSTRACT

All aspects of medical education were affected by the COVID-19 pandemic. Several challenges were experienced by trainees and programs alike, including economic repercussions of the pandemic; social distancing affecting the delivery of medical education, testing, and interviewing; the surge of patients affecting redeployment of personnel and potential compromises in core training; and the overall impact on the wellness and mental health of trainees and educators. The ability of medical teams and researchers to peer review, conduct clinical research, and keep up with literature was similarly challenged by the rapid growth in peer-reviewed and preprint literature. This article reviews these challenges and shares strategies that institutions, educators, and learners adopted, adapted, and developed to provide quality education during these unprecedented times.

Keywords: COVID-19; MedEd; medical education; pandemic.

5. *Singal A, Bansal A, Chaudhary P, Singh H, Patra A. Anatomy education of medical and dental students during COVID-19 pandemic: a reality check. Surg Radiol Anat. 2021 Apr;43(4):515-521. doi: 10.1007/s00276-020-02615-3. Epub 2020 Nov 18.*

ABSTRACT

Purpose: During this forced down-time of COVID-19 pandemic, shift to virtual anatomy education is the solitary solution to support the learning of students. The purpose of this study was to understand the visible and invisible potential challenges being faced by the 1st year medical and dental students while attending digital anatomy classes.

Methods: The present study was conducted on 81st year medical and dental students who were admitted to their respective college in August 2019 and were willing to participate in the study. A multiple choice close-ended questionnaire regarding their opinion on virtual classes was designed and feedback was taken from the students.

Results: Majority (65%) of the students agreed that they missed their traditional anatomy learning i.e., dissection courses, face to face lectures and interaction with mentors. The students strongly felt the lack of confidence and difficulty in the topics completed without dissections, models, microscopic slides and other modalities. 83% felt lack of proper gadgets, high-band width and strong internet connections, a potential barrier in their digital learning. Lack of self-motivation was felt by 69% students.

Conclusions: The current situation of anatomy education is not intentional, and is not the long term silver bullet solution for a visual subject like anatomy. Though learners face a lot of challenges, however, a shift to online must be supported at this time of health crisis. As the digital learning may go

for indefinite period, the feedback of students may be helpful for relevant and timely modifications in digital anatomy education.

Keywords: Anatomy education; COVID-19; Dissection course; Students; Virtual classes.

6. *Maggio LA, Larsen K, Thomas A, Costello JA, Artino Jr AR. Scoping reviews in medical education: A scoping review. Med Educ. 2021 Jun;55(6):689-700. doi: 10.1111/medu.14431. Epub 2020 Dec 30.*

ABSTRACT

Objectives: Over the last two decades, the number of scoping reviews in core medical education journals has increased by 4200%. Despite this growth, research on scoping reviews provides limited information about their nature, including how they are conducted or why medical educators undertake this knowledge synthesis type. This gap makes it difficult to know where the field stands and may hamper attempts to improve the conduct, reporting and utility of scoping reviews. Thus, this review characterises the nature of medical education scoping reviews to identify areas for improvement and highlight future research opportunities.

Method: The authors searched PubMed for scoping reviews published between 1/1999 and 4/2020 in 14 medical education journals. The authors extracted and summarised key bibliometric data, the rationales given for conducting a scoping review, the research questions and key reporting elements as described in the PRISMA-ScR. Rationales and research questions were mapped to Arksey and O'Malley's reasons for conducting a scoping review.

Results: One hundred and one scoping reviews were included. On average, 10.1 scoping reviews (SD = 13.1, median = 4) were published annually with the most reviews published in 2019 (n = 42). Authors described multiple reasons for undertaking scoping reviews; the most prevalent being to summarise and disseminate research findings (n = 77). In 11 reviews, the rationales for the scoping review and the research questions aligned. No review addressed all elements of the PRISMA-ScR, with few authors publishing a protocol (n = 2) or including stakeholders (n = 20). Authors identified shortcomings of scoping reviews, including lack of critical appraisal.

Conclusions: Scoping reviews are increasingly conducted in medical education and published by most core journals. Scoping reviews aim to map the depth and breadth of emerging topics; as such, they have the potential to play a critical role in the practice, policy and research of medical education. However, these results suggest improvements are needed for this role to be fully realised.

7. *Rabinowitz DG. On the arts and humanities in medical education. Philos Ethics Humanit Med. 2021 Jun 30;16(1):4. doi: 10.1186/s13010-021-00102-0.*

ABSTRACT

This paper aims to position the birth of the Medical Humanities movement in a greater historical context of twentieth century American medical education and to paint a picture of the current landscape of the Medical Humanities in medical training. It first sheds light on the model of medical education put forth by Abraham Flexner through the publishing of the 1910 Flexner Report, which set the stage for defining physicians as experimentalists and rooting the profession in research institutions. While this paved the way for medical advancements, it came at the cost of producing a patriarchal approach to medical practice. By the late 1960s, the public persona of the profession was thus devoid of humanism. This catalyzed the birth of the Medical Humanities movement that helped lay the framework for what has perpetuated as the ongoing incorporation of humanistic subjects into medical training. As we enter a time in medicine in which rates of burnout are ever-increasing and there are growing concerns about a concomitant reduction in empathy among trainees, the need for instilling humanism remains important. We must consequently continue to consider how to ensure the place of the Medical Humanities in medical education moving forward.

Keywords: Medical education; Medical humanism; Medical humanities; Medicine and arts.

8. *Mccarthy C, Spray D, Zilhani G, Fletcher N. Perioperative care in cardiac surgery. Minerva Anesthesiol. 2021 May;87(5):591-603. doi: 10.23736/S0375-9393.20.14690-X. Epub 2020 Nov 11.*

ABSTRACT

As mortality is now low for many cardiac surgical procedures, there has been an increasing focus on patient centered outcomes such as recovery and quality of life. The Enhanced Recovery After Surgery (ERAS) cardiac society recently published the first set of guidelines for cardiac surgery which will be useful as a starting point to help translate this philosophy for the benefit of those undergoing cardiac surgery. At the same time there are many advances in other areas such as mechanical circulation, diagnostics and quality metrics. We intend here to present a balanced and evidenced based review of selected aspects of current practice, encompassing both UK and international perioperative care with a focus on recent advances. For the convenience of the reader we will adopt the conventional perioperative preoperative, intraoperative and postoperative phases of care. The focus of cardiac surgical practice needs to evolve from mortality to recovery. Those specialists who work in cardiac anaesthesia and critical care are well placed to contribute to these changes. Accompanying this work is the development of technologies to improve recognition of and intervention to prevent early organ dysfunction. Measuring, benchmarking and publishing quality outcomes from cardiac surgical centres is likely to improve services and benefit our patients.

9. *Chatterjee S, Anton JM, Rosengart TK, Coselli JS. Cardiac surgery during the COVID-19 sine wave: Preparation once, preparation twice. A view from Houston. J Card Surg. 2021 May;36(5):1615-1623. doi: 10.1111/jocs.14987. Epub 2020 Sep 28.*

ABSTRACT

The novel coronavirus disease (COVID-19) pandemic has created major challenges and disruptions to hospitals throughout the world, with profound implications for cardiac surgery and cardiac surgeons. In this review, we highlight the hospital and cardiac surgical experience at Baylor St. Luke's Medical Center in the Texas Medical Center in Houston, Texas as of mid-July 2020. Our local experience has consisted of a spring surge (early March to early May), followed by a relative flattening and then a summer surge (early June to present day), similar to a sine wave. Throughout the entire pandemic, our simultaneous medical priorities have been treating the growing number of patients with COVID-19 while continuing to provide needed care for those without COVID-19. The current situation will be the "new normal" until a vaccine becomes available. It will be vital to stay attuned to epidemiologists, public health officials, and infection control experts, because what they see today, the intensive care units will see tomorrow. The lessons we have learned are outlined in this review but can be summarized most succinctly: preparation. We must prepare in advance, stockpile supplies and personal protective equipment, have rapid and vigorous testing protocols in place, utilize technology (eg, online meetings, videoconference "office visits"), and encourage hospital-wide and community protective efforts (social distancing, mask wearing, hand hygiene). Hopefully, the lessons learned through this challenging experience will prepare us for the next time.

Keywords: COVID-19; Houston; cardiovascular surgery; pandemic.

10. *Osman F, Caplin N, Bashir M. COVID-19: The rising cost of cardiac surgery and disease. J Card Surg. 2021 May;36(5):1593-1596. doi: 10.1111/jocs.15206. Epub 2020 Dec 1.*

ABSTRACT

The coronavirus disease 19 (COVID-19) pandemic has resulted in widespread economic, health and social disruptions. The delivery of cardiovascular care has been stifled during the pandemic to adhere to infection control measures as a way of protecting patients and the workforce at large. This cautious approach has been protective since individuals with COVID-19 and cardiovascular disease are anticipated to have poorer outcomes and an increased risk of death. The combination of postponing elective cardiovascular surgeries, reduced acute care and long-term cardiac damage directly resulting from COVID-19 will likely have increased the demand for cardiac care, particularly from patients presenting with more severe symptoms. The combination of increased demand and

inhibited supply will likely result in huge backlog of unmet patients' needs. The novelty, virulence and infectivity of severe acute respiratory syndrome coronavirus 2 has caused substantial morbidity and mortality, thus necessitating modifications to the UK government's healthcare strategy. Without improving cost efficiency, the UK's ageing population will likely need an increasing spend on cardiac surgery simply to maintain the same level of service. However, the government's short-term increase in spending is unsustainable especially in the face of ongoing economic uncertainty. This means that the long-term impact of COVID-19 will only increase the need to find innovative ways of delivering equivalent or superior cardiac care at a reduced unit cost.

Keywords: COVID-19; cardiac surgery; cost; health economics.

11. *de Man MACP, Segers EW, Schappin R, van der Leeden K, van Asperen RMW, Breur H, et al. Parental experiences of their infant's hospital admission undergoing cardiac surgery: A systematic review. Acta Paediatr. 2021 Jun;110(6):1730-1740. doi: 10.1111/apa.15694. Epub 2021 Jan 13.*

ABSTRACT

Aim: To explore parents' experiences of parenting a child hospitalised with congenital heart disease (CHD) and undergoing surgery.

Methods: Five electronic databases were systematically searched for articles describing the experiences of parents with a child with a CHD. A thematic analysis approach was used to identify the most common themes.

Results: A total of 188 articles were identified. Eight studies were included in the review. Four themes emerged, including balancing the parental role, experiencing anticipatory grief, decreasing parental stress using coping strategies and professional support.

Conclusion: Having a child with CHD undergoing heart surgery is a stressful experience due to, among other things, the different situation-related parenting role during the hospital stay and feelings of anticipatory grief. Healthcare professionals in the PICU have an essential role in supporting parents and understanding the needs that are crucial for the parents in order to provide better support and reduce stress and anxiety. More qualitative research regarding the pathway from the prenatal diagnosis through the early childhood period is warranted.

Keywords: congenital heart disease; paediatrics; parental experiences; systematic review.

12. *Kearney A, Linden K, Savage P, Menown IBA. Advances in Clinical Cardiology 2020: A Summary of Key Clinical Trials. Adv Ther. 2021 May;38(5):2170-2200. doi: 10.1007/s12325-021-01711-z. Epub 2021 Apr 12.*

ABSTRACT

Introduction: Despite the challenge of a global pandemic, 2020 has been an invaluable year in cardiology research with numerous important clinical trials published or presented virtually at major international meetings. This article aims to summarise these trials and place them in clinical context.

Methods: The authors reviewed clinical trials presented at major cardiology conferences during 2020 including the American College of Cardiology, European Association for Percutaneous Cardiovascular Interventions, European Society of Cardiology, Transcatheter Cardiovascular Therapeutics and the American Heart Association. Trials with a broad relevance to the cardiology community and those with potential to change current practice were included.

Results: A total of 87 key cardiology clinical trials were identified for inclusion. New interventional and structural cardiology data included trials evaluating bifurcation percutaneous coronary intervention (PCI) techniques, intravascular ultrasound (IVUS)-guided PCI, instantaneous wave-free (iFR) physiological assessment, new generation stents (DynamX bioadaptor), transcatheter aortic valve implantation (TAVI) in low-risk patients, and percutaneous mitral or tricuspid valve interventions. Preventative cardiology data included new data with proprotein convertase subtilisin-kexin type 9 (PCSK9) inhibitors (evolocumab and alirocumab), omega-3 supplements, evinacumab and colchicine in the setting of chronic coronary artery disease. Antiplatelet data included trials evaluating both the optimal length of course following PCI and combination of antiplatelet agents and regimes including combination antithrombotic therapies for patients with atrial fibrillation (AF). Heart failure data included the use of sodium-glucose cotransporter 2 (SGLT2) inhibitors (sotagliflozin, empagliflozin and dapagliflozin) and mavacamten in hypertrophic cardiomyopathy. Electrophysiology trials included early rhythm control in AF and screening for AF.

Conclusion: This article presents a summary of key clinical cardiology trials during the past year and should be of relevance to both clinicians and cardiology researchers.

Keywords: Acute coronary syndrome; Anticoagulation; Atrial fibrillation; Cardiology; Heart failure; Lipids; Mitral clip; Myocardial infarction; Transcatheter aortic valve implantation; coronary revascularisation.