SELECTED ABSTRACTS FROM PUBMED

1. ***Farooq RK, Syed Z, Zulqernain A. Bibliometric review of mental health research in medical colleges of Pakistan. Sultan Qaboos Univ Med J. 2019 Aug;19(3):e242-e247.***

ABSTRACT

Objectives: Mental health is a less frequently explored area of medical research as both developing and developed countries lack competent human resources and funding for this purpose. Reviewing mental health research can help medical professionals appreciate the progress of understanding and identify problems in this area. This systematic review examined the status of mental health research carried out in medical education institutions and tertiary healthcare hospitals across Pakistan over the past 70 years.

Methods: PubMed® (National Library of Medicine, Bethesda, Maryland, USA), was searched for articles published between 1947 and 2017 related to mental health with an emphasis on the exclusive affiliation of the first author with a medical college in Pakistan.

Results: A total of 118 articles were included in this study. The number of published research-based studies has increased steadily over the past years. However, there are indicators of a lack of quality research, such as no declaration of conflict of interest or the identification of a funding source and a general lack of publications in a journal with a high impact factor.

Conclusion: The findings of this study have shown a steady improvement in the quantity and quality of mental health research conducted in Pakistani medical colleges/universities. However, a lack of funding, training and faculty induction policies may be hindering the establishment of a research culture and contributing to the slow progression of mental health research in Pakistan.

Keywords: Medical Education; Mental Health; Pakistan; Psychiatry in Literature; Research.

2. ***Ommering BWC, van Blankenstein FM, Wijnen-Meijer M, van Diepen M, Dekker FW. Fostering the physician-scientist workforce: a prospective cohort study to investigate the effect of undergraduate medical students' motivation for research on actual research involvement. BMJ Open. 2019 Jul 23;9(7):e028034.***

ABSTRACT

Objectives: The medical field is facing a physician-scientist shortage. Medical schools could contribute to developing physician-scientists by stimulating student involvement in research. Studies have examined motivation for research as a key parameter of success. However, previous studies did not investigate if students act on their self-reported motivation. The aim of this study is to examine if motivation for research of medical students is related to actual research involvement. Furthermore, this study distinguishes intrinsic (IM) and extrinsic motivation (EM) for research and aims to investigate if a type of motivation matters in the relation between research motivation and involvement.

Design and setting: Prospective cohort study in which students were surveyed at the start of medical school and reported IM and EM for research, self-efficacy, perceptions of research and curiosity on a 7-point Likert scale. One year later, students involved in research were identified. Logistic regression was used to examine influences of IM and EM on research involvement.

Participants: All undergraduate medical students starting at one medical school in the Netherlands in 2016. In total, 315 out of 316 students participated (99.7%), of whom 55 became involved in research (17.5%).

Main outcome measure: Research involvement, which was operationalised as the enrolment of students in the research-based honours programme or the involvement of students in voluntary research activities outside of the regular curriculum.

Results: Students with higher levels of IM were more often involved in research (OR 3.4; 95% CI 2.08 to 5.61), also after adjusting for gender, age, extracurricular high school activities, self-efficacy, perceptions and curiosity (OR 2.5; 95% CI 1.35 to 4.78). Higher levels of EM increased the odds of research involvement (OR 1.4; 95% CI 0.96 to 2.11). However, the effect of EM disappeared after adjusting for the above-mentioned factors (OR 1.05; 95% CI 0.67 to 1.63). Furthermore, the effect of IM remained after adjusting for EM, whereas the effect of EM disappeared after adjusting for IM.

Conclusions: Our findings suggest that the type of motivation matters and IM influences research involvement. Therefore, IM could be targeted to stimulate research involvement and could be seen as the first step towards success in fostering the physician-scientist workforce.

Keywords: education & training (see medical education & training); medical education and training; statistical & research methods.

3. ***Weaver MS, Mooney-Doyle K, Kelly KP, Montgomery K, Newman AR, Fortney CA, et al. The benefits and burdens of pediatric palliative care and end-of-life research: a systematic review. J Palliat Med. 2019 Aug;22(8):915-26.***

ABSTRACT

Objective: The aim of this study is to report the benefits and burdens of palliative research participation on children, siblings, parents, clinicians, and researchers. Background: Pediatric palliative care requires research to mature the science and improve interventions. A tension exists between the desire to enhance palliative and end-of-life care for children and their families and the need to protect these potentially vulnerable populations from untoward burdens.

Methods: Systematic review followed PRISMA guidelines with prepared protocol registered as PROSPERO #CRD42018087304. MEDLINE, CINAHL, PsycINFO, EMBASE, Scopus, and The Cochrane Library were searched (2000-2017). English-language studies depicting the benefits or burdens of palliative care or end-of-life research participation on either pediatric patients and/or their family members, clinicians, or study teams were eligible for inclusion. Study quality was appraised using the Mixed Methods Appraisal Tool (MMAT).

Results: Twenty-four studies met final inclusion criteria. The benefit or burden of palliative care research participation was reported for the child in 6 papers; siblings in 2; parents in 19; clinicians in 3; and researchers in 5 papers. Benefits were more heavily emphasized by patients and family members, whereas burdens were more prominently emphasized by researchers and clinicians. No paper utilized a validated benefit/burden scale.

Discussion: The lack of published exploration into the benefits and burdens of those asked to take part in pediatric palliative care research and those conducting the research is striking. There is a need for implementation of a validated benefit/burden instrument or interview measure as part of pediatric palliative and end-of-life research design and reporting.

Keywords: benefits and burdens; palliative care research; pediatric palliative care.

4. ***Sakurai-Yageta M, Kawame H, Kuriyama S, Hozawa A, Nakaya N, Nagami F, et al. A training and education program for genome medical research coordinators in the genome cohort study of the Tohoku Medical Megabank Organization. BMC Med Educ. 2019 Aug 2;19(1):297.***

ABSTRACT

Background: Genome cohort studies are used to analyze interactions between genetic and environmental factors, providing valuable information for personalized healthcare. Large-scale and long-term cohort studies require a number of specially trained personnel, of whom those involved in obtaining informed consent play a vital role, especially during the initial phase of such studies. The Japanese Society of Human Genetics (JSHG) previously established a certification system for genome medical research coordinators (GMRCs) responsible for obtaining written consent via face-to-face explanation. Meanwhile, in the Tohoku Medical Megabank Organization (ToMMo), GMRCs are expected to play important roles not only in obtaining informed consent and conducting various assessments, but also in communicating with participants throughout the long-term follow-up. Based on the JSHG program, we therefore developed a specific education and training program for ToMMo GMRCs consisting of 17 lectures, one practical training session on the informed consent procedure, and written and interview examinations. Re-education workshops aimed at self-improvement are also carried out following certification. In this study, we evaluated the education and training program in terms of overall understanding, usefulness, and satisfaction using an anonymous questionnaire.

Methods: An anonymous questionnaire addressing each aspect of the education and training program (understanding, usefulness, and satisfaction) was distributed among 152 qualified ToMMo GMRCs. Responses were received from 94 participants (61.8%).

Results: There was a significant association between the level of overall understanding of lectures and medical qualification (nurse or clinical laboratory technologist), but not with age or educational background. The level of understanding and overall usefulness were lower in sessions related to genetics and epidemiology than those dealing with ToMMo practices. In the re-education workshops, GMRCs showed a preference for and hoped to learn more about both background knowledge and research progress in the ToMMo.

Conclusions: The results of our questionnaire suggest that not all ToMMo GMRCs are able to understand everything during the initial education and training program, especially in terms of genomic medicine. Continuous re-education is therefore vital in improving knowledge, skills and motivation, and preparing GMRCs for a specialist role in community-based personalized healthcare.

Keywords: Biobank; Education; Genome cohort study; Genome medical research coordinator; Informed consent.

5. ***Lau AYS, Staccini P. Artificial Intelligence in health: new opportunities, challenges, and practical implications. Yearb Med Inform. 2019 Aug;28(1):174-8.***

ABSTRACT

Objectives: To summarise the state of the art during the year 2018 in consumer health informatics and education, with a special emphasis on the special topic of the International Medical Informatics Association (IMIA) Yearbook for 2019: "Artificial intelligence in health: new opportunities, challenges, and practical implications".

Methods: We conducted a systematic search of articles published in PubMed using a predefined set of queries that identified 99 potential articles for review. These articles were screened according to topic relevance and 14 were selected for consideration as best paper candidates. The 14 papers were then presented to a panel of international experts for full paper review and scoring. Three papers that received the highest score were discussed in a consensus meeting and were agreed upon as best papers on artificial intelligence in health for patients and consumers in the year 2018.

Results: Only a small number of 2018 papers reported Artificial Intelligence (AI) research for patients and consumers. No studies were found on AI applications designed specifically for patients or consumers, nor were there studies that elicited patient and consumer input on AI. Currently, the most common use of AI for patients and consumers lies in secondary analysis of social media data (e.g., online discussion forums). In particular, the three best papers shared a common methodology of using data-driven algorithms (such as text mining, topic modelling, Latent Dirichlet allocation modelling), combined with insight-led approaches (e.g., visualisation, qualitative analysis and manual review), to uncover patient and consumer experiences of health and illness in online communities.

Conclusions: While discussion remains active on how AI could 'revolutionise' healthcare delivery, there is a lack of direction and evidence on how AI could actually benefit patients and consumers. Perhaps instead of primarily focusing on data and algorithms, researchers should engage with patients and consumers early in the AI research agenda to ensure we are indeed asking the right questions, and that important use cases and critical contexts are identified together with patients and consumers. Without a clear understanding on why patients and consumers need AI in the first place, or how AI could support individuals with their healthcare needs, it is difficult to imagine the kinds of AI applications that would have meaningful and sustainable impact on individual daily lives.

6. ***Gal D, Thijs B, Glänzel W, Sipido KR. Hot topics and trends in cardiovascular research. Eur Heart J. 2019 Jul 21;40(28):2363-74.***

ABSTRACT

Aims: Comprehensive data on research undertaken in cardiovascular medicine can inform the scientific community and can support policy building. We used the publication output from 2004 to 2013 and the 2014 references to these documents, to identify research topics and trends in the field of cardiovascular disease.

Methods and results: Text fragments were extracted from the titles and abstracts of 478 000 publications using natural language processing. Through machine-learning algorithms, these text fragments combined to identify specific topics across all publications. A second method, which included cross-references, assigned each publication document to a specific cluster. Experts named the topics and document clusters based on various outputs from these semi-automatic methods. We identified and labelled 175 cardiovascular topics and 20 large document clusters, with concordance between the approaches. Overarching, strongly growing topics in clinical and population sciences are evidence-based guidance for treatment, research on outcomes, prognosis, and risk factors. 'Hot' topics include novel treatments in valve disease and in coronary artery disease, and imaging. Basic research decreases its share over time but sees substantial growth of research on stem cells and tissue engineering, as well as in translational research. Inflammation, biomarkers, metabolic syndrome, obesity, and lipids are hot topics across population, clinical and basic research, supporting integration across the cardiovascular field.

Conclusion: Growth in clinical and population research emphasizes improving patient outcomes through novel treatments, risk stratification, and prevention. Translation and innovation redefine basic research in cardiovascular disease. Medical need, funding and publishing policies, and scientific opportunities are potential drivers for these evolutions.

Keywords: Cardiovascular research; Clinical care; Innovation; Outcomes; Prevention.

7. ***Holmgaard F, Vedel AG, Rasmussen LS, Paulson OB, Nilsson JC, Ravn HB. The association between postoperative cognitive dysfunction and cerebral oximetry during cardiac surgery: a secondary analysis of a randomised trial. Br J Anaesth. 2019 Aug;123(2):196-205.***

ABSTRACT

Background: Postoperative cognitive dysfunction (POCD) occurs commonly after cardiac surgery. Near-infrared spectroscopy (NIRS) has been used to monitor regional cerebral oxygen saturation (rScO2) in order to minimise the occurrence of POCD by applying dedicated interventions when rScO2 decreases. However, the association between rScO2 intraoperatively and POCD has not been clarified.

Methods: This is a secondary analysis of a randomised trial with physician-blinded NIRS monitoring and cognitive testing at discharge from hospital and at 3 months after surgery. The association between intraoperative rScO2 values and POCD at discharge from hospital and at 3 months after surgery was investigated. The prespecified candidate predictive variable of interest was cumulative time during surgery with rScO2 ≥10% below its preoperative value.

Results: One hundred and fifty-three patients had complete NIRS data and neurocognitive assessments at discharge, and 44 of these patients (29%) had POCD. At 3 months, 148 patients had complete data, and 12 (8%) of these patients had POCD. The median time with rScO2 >10% below preoperative values did not differ for patients with and without POCD at discharge (difference=0.0 min; Hodges-Lehmann 95% confidence interval, -3.11-1.47, P=0.88). Other rScO2 time thresholds that were assessed were also not significantly different between those with and without POCD at discharge. This applied both to absolute rScO2 values and relative changes from preoperative values. Similar results were found in relation to POCD at 3 months.

Conclusions: No significant association was found between intraoperative rScO2 values and POCD. These findings bring into question the rationale for attempting to avoid decreases in rScO2 if the goal is to prevent POCD.

Clinical trial registration: NCT02185885.

Keywords: cardiac surgery; delayed neurocognitive recovery; neuropsychological tests; postoperative complications; postoperative neurocognitive disorders; spectroscopy, near-infrared.

8. ***Patra C, Gatti PC, Panigrahi A. Morbidity After cardiac surgery under cardiopulmonary bypass and associated factors: A retrospective observational study. Indian Heart J. Jul-Aug 2019;71(4):350-5.***

ABSTRACT

Background: The present study aimed to assess the morbidity after cardiac surgery and identify the preoperative and intraoperative factors associated with postoperative morbidity.

Methods: A retrospective observational study was conducted including 362 adult patients aged 18-75 years who underwent open-heart surgery under cardiopulmonary bypass at Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bengaluru, India, during the period from June 2016 to May 2017. Using a structured schedule, preoperative and intraoperative data were collected from the hospital's cardiac surgery database, whereas the postoperative data were collected from the intensive care unit (ICU) database and the hospital's clinical information system database.

Results: Of 362 patients, 254 (70.2%) had at least one major complication, and the most frequently occurring complication was low cardiac output state (29.8%). The ICU length of stay (LOS) was for > 2 days in 23.2% of patients, and the hospital LOS was for > 7 days in almost 60% of the patients. Multivariate logistic regression analyses revealed that gender, type of surgery, body weight, blood lactate level at ICU admission, and 12-h blood lactate level were significant predictors of complications; gender and 24-h blood lactate level were significantly associated with the prolonged ICU LOS, whereas type of surgery and 24-h blood lactate level were significantly associated with prolonged hospital LOS.

Conclusion: The appropriate patient management strategy can be tailored based on the personal attributes, surgery type, and blood lactate level for individual patients undergoing cardiac surgery to reduce the likelihood of postoperative complications, ICU LOS, and hospital LOS.

Keywords: Cardiac surgery; Complication; Hospital LOS; ICU LOS; Postoperative morbidity.

9. ***Lapillonne A, Bronsky J, Campoy C, Embleton N, Fewtrell M, Mis NF, et al. Feeding the late and moderately preterm infant: a position paper of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition Committee on Nutrition. J Pediatr Gastroenterol Nutr. 2019 Aug;69(2):259-70.***

ABSTRACT

Nutritional guidelines and requirements for late or moderately preterm (LMPT) infants are notably absent, although they represent the largest population of preterm infants. The European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition (CoN) performed a review of the literature with the aim to provide guidance on how to feed infants born LMPT, and identify gaps in the literature and research priorities. Only limited data from controlled trials are available. Late preterm infants have unique, often unrecognized, vulnerabilities that predispose them to high rates of nutritionally related morbidity and hospital readmissions. They frequently have feeding difficulties that delay hospital discharge, and poorer rates of breastfeeding initiation and duration compared with term infants. This review also identified that moderately preterm infants frequently exhibit postnatal growth restriction. The ESPGHAN CoN strongly endorses breast milk as the preferred method of feeding LMPT infants and also emphasizes that mothers of LMPT infants should receive qualified, extended lactation support, and frequent follow-up. Individualized feeding plans should be promoted. Hospital discharge should be delayed until LMPT infants have a safe discharge plan that takes into account local situation and resources. In the LMPT population, the need for active nutritional support increases with lower gestational ages. There may be a role for enhanced nutritional support including the use of human milk fortifier, enriched formula, parenteral nutrition, and/or additional supplements, depending on factors, such as gestational age, birth weight, and significant comorbidities. Further research is needed to assess the benefits (improved nutrient intakes) versus risks (interruption of breast-feeding) of providing nutrient-enrichment to the LMPT infant.

10. ***Hasan A, Visrodia K, Farrell JJ Gonda TA. Overview and comparison of guidelines for management of pancreatic cystic neoplasms. World J Gastroenterol. 2019 Aug 21;25(31):4405-13.***

ABSTRACT

Pancreatic cysts are identified at an increasing frequency. Although mucinous cystic neoplasms represent a pre-malignant condition, the majority of these lesions do not progress to cancer. Over the last 10 years several societies have established guidelines for the diagnosis, initial evaluation and surveillance of these lesions. Here we provide an overview of five commonly used guidelines: 2015 American Gastroenterological Association, 2017 International Association of Pancreatology, American College of Gastroenterology 2018, European Study Group and American College of Radiology. We describe the similarities and differences between the methods used to formulate these guidelines, the population they target and their approaches towards initial evaluation and surveillance of cystic lesions.

Keywords: Cyst malignancy; Guidelines; Pancreatic cyst surveillance.