

# CURRICULUM VITAE

**DR. SAIMA ALI**  
**MBBS, FCPS (Medicine), MHPE**  
**Clinician Educator**



**A. Curriculum Vitae Update:** August 2024

## **B. Biographical Information:**

**Primary Office:** Department of Emergency Medicine, Indus Hospital and Health Network, Plot C-76, Sector 31/5, Opposite Korangi Crossing, Darussalam Society Sector 39 Korangi, Karachi, Pakistan.

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## **1. Education:**

### **Degree:**

2023- Present PhD scholar at Health professions Education, Leadership Tack- Massachusetts General Hospital, Institute of Health Professions Education (MGH IHP), Boston USA.

Thesis Supervisor: Dr. Bobbie Ann Adair White

2022 Masters in Health Professions Education (MHPE)- Aga Khan University Hospital, Karachi, Pakistan. Graduated with honors.

Supervisor: Professor Rukhsana Zuberi.

2000 Bachelor of Medicine and Bachelor of Surgery (MBBS), Dow University of Health Sciences, Karachi, Pakistan.

### **Postgraduate, Research and Specialty Training:**

2007 Fellowship in Internal Medicine, College of Physicians and Surgeons, Pakistan (CPSP).

Supervisor: Dr. Naseem Salahuddin.

### **Qualifications and Licensure:**

- 2018- Present Supervisor and Examiner in Emergency Medicine, College of Physicians and Surgeons, Pakistan (CPSP) (EMD-S-218-34).
- 2007- Present Fellow College of Physicians and Surgeons, Pakistan (FCPS) (Med-07-8202).
- 2000- Present Pakistan Medical and Dental Council (PMDC) (38887-S).

### **Certifications:**

- 2022 First master trainer in Pakistan for the **WHO-ICRC Basic Emergency Care (BEC) course** in Pakistan. Have conducted training courses in Karachi, Lahore and Muzaffargarh and with the Civil Aviation Authority of Pakistan where more than 200 physicians and nurses have been trained.
- 2022 Trainer for the **Collaborative Advance Trauma Care (CAT-C)** course with training of participants in Karachi, Badin, Lahore and Islamabad in collaboration with trainers from Grady Memorial Hospital, Emory University, Atlanta, USA.
- 2021 **Emergency Department Quality Improvement Professional (EQIP) Certification Course**, Department of Emergency Medicine at Harvard Medical Faculty Physicians / Beth Israel Deaconess Medical Center.
- 2021 **Advanced Cardiac Life Support (ACLS)** AHA, College of Physicians and Surgeons, Pakistan (CPSP).
- 2019- Present Instructor, **Basic Emergency Care (BEC)** Course, WHO-ICRC.
- 2019 **Advanced Trauma Life Support (ATLS)** AHA, College of Physicians and Surgeons, Pakistan (CPSP).
- 2019 **AMEE ESME Certificate in Medical Education**, Dundee, United Kingdom.
- 2018 **Great Managers Academy, Learning Minds**, a one-week workshop conducted at the Indus Hospital and Health Network
- 2018 **Advanced Pediatric Life Support (PALS)** AHA, College of Physicians and Surgeons, Pakistan (CPSP).

2018 **Leadership Essentials Course, International Emergency Department Leadership Institute (IEDLI)**, Brigham and Women's Hospital, Harvard Medical School, USA.

## 2. Employment:

### Current Appointments:

2022- Present **Visiting Facilitator**, Department of Educational Development (DED), Aga Khan University Hospital, Karachi, Pakistan.

2021- Present **Head of the Department**, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.

2018-2021 **Program Director**, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.

2017- Present **Consultant**, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.

### Previous Appointments:

2013-2017 **Consultant**, Emergency Medicine, Liaquat National Hospital, Karachi, Pakistan.

2013- 2017 **Faculty**, College of Nursing and Allied Health Professionals, Liaquat National Hospital, Karachi, Pakistan.

## 3. Honors and Career Awards:

2024 **Best Faculty Award**, Presented at the faculty appreciation night to honor the services of faculty members serving the Indus Hospital and Health Network, Pakistan in various capacities.

2024 **Chair ICON 2024**: 7<sup>th</sup> Biennial Pan-Pakistan Conference of the Indus Hospital and Health Network, Karachi, Pakistan held across three cities with more than 80 scientific sessions, 100 workshops and publication of ICON 2024 supplement in the Pakistan Journal of Medical Sciences (PJMS) (<https://www.pjms.org.pk/index.php/pjms/article/view/9224>). I also hold the honor of being the first woman chair for ICON at IHHN.

2020 Society of Academic Emergency Medicine's (SAEM) Global Emergency Medicine Academy (GEMA) **Global Emergency Medicine Education Award** for Certification Program in Emergency Medicine (CPEM)

[\(https://indushospital.org.pk/news/cpem-receives-gema-2020-global-medical-education-award/\)](https://indushospital.org.pk/news/cpem-receives-gema-2020-global-medical-education-award/).

- 2020 **Secretary, ICON 2020**, 5<sup>th</sup> Biennial Conference of the Indus Hospital and Health Network, Karachi, Pakistan where the scientific committee published the first ICON 2020 supplement in the Pakistan Journal of Medical Sciences (PJMS) (<https://www.pjms.org.pk/index.php/pjms/issue/view/9>)
- 2019 **Best Poster Award**, 3<sup>rd</sup> Educational Research Day, Aga Khan University Hospital, Karachi, Pakistan.
- Presented* at 26<sup>th</sup> Annual Meeting and Virtual International Conference of SESAM 2021.
- 2006 **Best Chief Resident Award**, Liaquat National Hospital, Karachi, Pakistan.

#### 4. Professional Affiliations and Activities:

##### International:

- 2021- Present **Member-** International Pediatric Simulation Society (IPSS).
- 2019- Present **Member-** Curriculum Committee of Social Emergency Medicine (SEM) section- ACEP.
- 2019- Present **Member-** European Society for Emergency Medicine (EuSEM).
- 2019- Present **Member-** Society in Europe for Simulation Applied to Medicine (SESAM).
- 2018- Present **Member-** Social Medicine Consortium.
- 2018-Present **Member-** American College of Emergency Medicine (ACEP) International section and Social Emergency Medicine (SEM) section.

##### National:

- 2021- Present **Member-** Pakistan Society of Emergency Medicine (PSEM) **Lead-** Strategic Committee on Leadership in EM.
- 2021- Present **Member-** MHPE Curriculum Committee, Aga Khan University Hospital, Karachi, Pakistan.
- 2021- Present **Reviewer-** Journal of College of Physicians and Surgeons, Pakistan (JCPSP).

##### Local:

2021- Present	<b>Lead-</b> Departmental Clinical Committee, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.
2021- Present	<b>Member-</b> Departmental Clinical Practice Guideline Committee, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.
2021- Present	<b>Member-</b> Departmental Clinical Research Committee, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.
2020- Present	<b>Member-</b> Hospital Infection Control Committee, Indus Hospital and Health Network, Karachi, Pakistan.
2020- Present	<b>Member-</b> Hospital Morbidity and Mortality Committee, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.
2019- Present	<b>Member,</b> Internal Review Board (IRB), Indus Hospital Research Center (IHRC), Indus Hospital and Health Network, Karachi, Pakistan.
2018- Present	<b>Member,</b> Emergency Response Committee (ERC) and auditor for better CPR practices, Indus Hospital and Health Network, Karachi, Pakistan.
2017- Present	<b>Lead-</b> Departmental Quality Improvement and Patient Safety Committee, Emergency Medicine, Indus Hospital and Health Network, Karachi, Pakistan.
2014- 2017	<b>Member,</b> Internal Review Board (IRB), Liaquat National Hospital, Karachi, Pakistan.
2003-2006	<b>Chief Resident,</b> Department of Medicine, Liaquat National Hospital, Karachi, Pakistan.

### C. Scholarly Activities:

#### Published Work:

2024 **Co-investigator:** Mukhtar, S., Khatri, A., **Ali, S.,** & Saleem, S. G. (2024).  
**Here to Stay: Implementation of Tele-Emergency Medicine in a High Volume, Health Care network in Pakistan.**  
*Current Clinical and Medical Education*, 2(01).  
<http://www.visionpublisher.info/index.php/ccme/article/view/34>

**Description:** This letter to the editor sheds light on the innovative Tele- EM program implemented across two IHHN network district head quarter hospitals in the cities of Badin (rural city of Sindh Province) and Gwadar (rural district of Baluchistan province). Qualified emergency

physicians from the IHHN emergency department, Karachi provide online consultations for high acuity adult patients to these remote areas through 24/7 in real -time, video-based consultations. It is expected that this endeavor will help in provision of robust EM care and optimize management of acute emergencies, alongside training EM physicians on ground in Badin and Gwadar. This will also expedite appropriate patient disposition and translate in reduced ED waiting times and length of stay, bounce back and improved patient satisfaction.

2024

**Co-investigator:** Adnan, U., Mukhtar, S., Khatri, A., **Ali, S.**, Naeem, A. (2024)

**Case Report on Takotsubo Syndrome; A Life-Threatening Storm.**

Cardiol Res Cardio vasc Med 8: 216. <https://doi.org/10.29011/2575-7083.100216>

**Description:** Takotsubo syndrome (TTS) or stress cardiomyopathy, mimics acute coronary syndrome with normal coronary vasculature on angiography. International literature has described Takotsubo Syndrome in association with thyrotoxicosis. The authors report a case, the first of its kind in Pakistan, illustrating the presentation of Takotsubo Syndrome in a young man with thyrotoxicosis that resulted in a fatal outcome. Thus, emphasizing the need for prompt recognition of TTS as a preliminary diagnosis in the Emergency Department (ED).

2024

**Co-investigator:** Farooq, W., Kazi, K., Saleem, S. G., & **Ali, S.** (2024).

**Epidemiology and clinical characteristics of adult patients presenting to a low resource, tertiary care emergency department in Pakistan: Challenges & Outcomes.**

*Pakistan Journal of Medical Sciences*, 40(2 (ICON)).  
([https://doi.org/10.12669/pjms.40.2\(ICON\).8975](https://doi.org/10.12669/pjms.40.2(ICON).8975))

**Description:** Emergency Departments (EDs) play a major role in managing acute and chronic illnesses, especially in low-to-middle-income countries like Pakistan, that lack effective primary healthcare. This study reports the epidemiology and clinical characteristics of patients presenting over a two-year period at the Indus Hospital and Health Network (IHHN) adult ED in Karachi, Pakistan.

2023

**Principal Investigator:** **Ali, S.**, Saleem, S. G., Khatri, A., & Mukhtar, S. (2023).

**To teach or not to teach-that is the question” The educational and clinical impact of introducing an outcome based, modular curriculum**

**in Social Emergency Medicine (SEM) at a private tertiary care center in Karachi, Pakistan.**

*BMC Medical Education*, 23(1), 1-9. (<https://doi.org/10.1186/s12909-023-04385-z>)

**Description:** This mixed method study explores the impact of a SEM curriculum on both the learners' and the patients' outcome. The key performance indicators measured and seen to improve after teaching this curriculum to the EM residents were the patients' acuity and the rate of their bounce back to the ED. It is hoped that this can lead to decreased burden on the limited resources and lead to the development of strategies to manage the negative social determinant of health of our patients.

2023

**Co-investigator:** Saleem, S. G., **Ali, S.**, Akhtar, A., Khatri, A., Ashraf, N., Jamal, I., ... & Mukhtar, S. (2023)

**Impact of sequential capacity building on emergency department organizational flow during COVID-19 pandemic: a quasi-experimental study in a low-resource, tertiary care center**

*BMJ open*, 13(7),e063413 (<https://doi.org/10.1136/bmjopen-2022-063413>)

**Description:** The study details the sequential capacity building of the ED at Karachi, IHHN during the various waves of COVID-19 and measures the positive impact of these educational and organizational interventions on patients' length of stay and wait time in the ED.

2023

**Co-investigator:** Bajwa, M., Khatri, A., **Ali, S.**, Ahmed, R., Elgasim, M. E. M., Raechal, L., ... & Fayyaz, J. (2023).

**Simplifying complexity science principles: developing healthcare faculty for using simulation as an educational method.**

*International Journal of Healthcare Simulation*, (null), 1-12 (<https://ijohs.com/article/doi/10.54531/QWKD2435>)

**Description:** Professional development in simulation-based education (SBE) is a complex process. Individual components have overlapping boundaries and relationships, rendering them suitable for Complex Adaptive Systems (CAS). This complexity is multifold in low-resource settings, unfamiliar with simulation, and augmented by hierarchical culture and linguistic diversity. This study aimed to conduct a professional development course through SBE using principles of CAS for faculty in a Pakistani medical college.

2023

**Co-investigator:** Fayyaz, J., Jaeger, M., Takundwa, P., Iqbal, A. U., Khatri, A., **Ali, S.**, ... & Gross, I. T. (2023).

**Exploring cultural sensitivity during distance simulations in pediatric emergency medicine.**

*AEM Education and Training*, 7(6), e10908. (<https://doi.org/10.1002/aet2.10908>)

**Description:** Cultural sensitivity (CS) training is vital to pediatric emergency medicine (PEM) curricula. This study aimed to explore CS in Yale PEM fellows in the USA and emergency medicine (EM) residents at Indus Hospital and Health Network (IHHN) in Pakistan through distance simulation activities. The distance simulation involving U.S. PEM fellows and Pakistani EM residents was an effective approach in assessing various aspects of intercultural education, such as language barriers, technical challenges, and religious considerations.

2023

**Co-investigator:** Saleem SG, **Ali S**, Khatri A, Mukhtar S, Farooq W, Maroof Q, Jamal MI, Aziz T, Haider KF, Dadabhoy FZ, Rybarczyk MM.

**Clinical Outcomes following the implementation of a novel one-year training program in emergency medicine in Karachi, Pakistan.**

*Ann Glob Health*. 2023 Jan 19;89(1):1. (<https://doi.org/10.5334/aogh.3890>)

**Description:** Most Emergency Departments (EDs) in low- and middle-income countries (LMICs), particularly in Pakistan, are staffed by physicians not formally trained in Emergency Medicine (EM). As of January 2022, there were only 13 residency training programs in EM throughout all of Pakistan. Therefore, an intermediate solution—a one-year training program in EM—was developed to build capacity. Implementation of a medium-duration, intensive EM training program can help improve patient care and the development of EM as a new specialty in lower-resource settings.

2023

**Co-investigator:** Khan, N. U., Khan, U. R., Ahmed, N., Ali, A., Raheem, A., Soomar, S. M., ... & Razzak, J. A. (2023).

**Improvement in the diagnosis and practices of emergency healthcare providers for heat emergencies after HEAT (heat emergency awareness & treatment) an educational intervention: a multicenter quasi-experimental study.**

*BMC emergency medicine*, 23(1), 1-9. (<https://doi.org/10.1186/s12873-022-00768-5>)



**Description:** The incidence of heat emergencies, including heat stroke and heat exhaustion, have increased recently due to climate change. Due to overlapping clinical manifestations with other diseases, most of these emergencies occurring in an elderly patient, patients with a comorbid condition, or patients on poly medicines. Diagnosing and managing them in the emergency department can be challenging. This study assessed whether an educational training on heat emergencies, defined as heat intervention in our study, could improve the diagnosis and management practices of ED healthcare providers.

2022

**Principal Investigator:** Ali S, Khatri A, Ghouri N, Mukhtar S, Zawawi S, Saleem SG.

**Combining non-invasive ventilation with timed position change in the emergency department to improve oxygenation and outcomes in patients with COVID-19: A prospective analysis from a low resource setup.**

Pakistan Journal of Medical Sciences. 2022; 38 (ICON-2022) (<https://doi.org/10.12669/pjms.38.ICON-2022.5772>)

**Description:** This prospective quantitative study was undertaken during COVID-19 to evaluate the impact of timed position change on the oxygenation of patients with COVID-19. This was conducted in view of the limited resources in LMIC, where modalities for invasive and non-invasive ventilation are scarce and the volumes of patients are high. This study provided the basis for the development of departmental protocols that were used during the subsequent waves of COVID and led to better outcome for our patients.

2022

**Co-investigator:** Saleem SG, Ali S, Ghouri N, Maroof Q, Jamal MI, Aziz T, Shapiro D, Rybarczyk M.

**Patient perception regarding privacy and confidentiality: A study from the emergency department of a tertiary care hospital in Karachi, Pakistan.**

Pakistan Journal of Medical Sciences. 2022; 38 (ICON-2022) (<https://doi.org/10.12669/pjms.38.ICON-2022.5785>)

**Description:** Patient privacy and confidentiality are a point of concern while working in high volume emergency departments. This study shows correlation between concerns for privacy and confidentiality and patient-provider interaction. Through this study, numerous steps were taken to ensure that the patients' experience of a busy emergency encounter is pleasant in spite of organizational challenges.

2021

**Co-investigator:** Mukhtar S, Saleem SG, **Ali S**, Khatri SA, Yaffee AQ.

**Standing at the edge of mortality; Five-year audit of an emergency department of a tertiary care hospital in a low resource setup.**

Pakistan Journal of Medical Sciences. 2021 May; 37 (3):633.  
(<https://dx.doi.org/10.12669%2Fpjms.37.3.3680>)

**Description:** This retrospective chart review helped in understanding the demographics of mortality and their burden on a busy tertiary care emergency department. It also identified the systemic gaps in management. This has led to better allocation of resources and development of audit tools to keep a check on preventable mortalities and development of corrective and preventive measures.

2021

**Co-investigator:** Kemmler, C. B., Saleem, S. G., **Ali, S.**, Samad, L., Haider, K. F., Jamal, M. I., ... & Rybarczyk, M. M. (2021).

**A 1-year training program in emergency medicine for physicians in Karachi, Pakistan: Evaluation of learner and program outcomes.**

*AEM Education and Training*, 5(3), e10625.  
(<https://doi.org/10.1002/aet2.10625>)

**Presented** at the 13th Congress of the European Society for Emergency Medicine, Prague CR, October 2019; and the 11th Annual Consortium of Universities for Global Health Conference, Washington, DC, April 2020 (conference cancelled due to COVID)

**Description:** This study highlights the impact of our one-year *Certification Program in Emergency Medicine (CPEM)* on learners and emphasizes on the use of innovative teaching and training methodologies for capacity building in LMIC. The study also talks about the generalizability of teaching innovations for expedited development of EM in countries like Pakistan. This was an evaluation of the first cohort of CPEM and since then two more batches of students have graduated.

2020

**Principal Investigator:** **Salman S**, Saleem SG, Shaikh Q, Yaffee AQ.

**Epidemiology and outcomes of trauma patients at The Indus Hospital, Karachi, Pakistan, 2017–2018.**

Pakistan Journal of Medical Sciences. 2020 Jan; 36 (1):S9.  
(<https://doi.org/10.12669/pjms.36.ICON-Suppl.1717>).

**Presented** at the 13th Congress of the European Society for Emergency Medicine, Prague CR, October 2019.

**Description:** Trauma is one of the prime reasons for patient mortality in LMIC and its disease burden is enormous. Evaluation of the epidemiology and outcome of trauma patients at the Indus Hospital and Health Network identifies gaps in physician knowledge in trauma management. This led to the development and conduction of the **Collaborative Advanced Trauma Care (CAT-C)** course in collaboration with Emory University, Atlanta, USA, in 2018 that is focused on inter specialty training of trauma management and development of trauma teams.

2020

**Principal Investigator:** Salman S, Saleem SG, Khatri A, Jamal I, Maroof Q, Alam A.

**Inter-hospital communication and transfer practices during COVID-19 pandemic in Karachi, Pakistan. A brief overview.**

Pakistan Journal of Medical Sciences. 2020 May; 36 (COVID19-S4):S118. (<https://doi.org/10.12669/pjms.36.COVID19-S4.2803>)

**Description:** This short communication was shared to highlight the impact of referral mechanisms developed by IHHN for better logistics of COVID-19 patients across the city of Karachi. As there is lack of well-developed pre-hospital care and EMS, this informal pathway led to the development of informal liaison between various tertiary care centers that is still used for patient referrals throughout the city.

2020

**Co-investigator:** Saleem, S. G., Haider, K. F., Salman, S., Samad, L., Yasin, Z., & Rybarczyk, M. (2020).

**Bridging the gap in emergency medicine in Pakistan.**

*Letter to the Editor- Western Journal of Emergency Medicine*, 21(2), 233. (doi: [10.5811/westjem.2019.10.44502](https://doi.org/10.5811/westjem.2019.10.44502)).

**Description:** This was the first letter to the editor, written as an introduction to our *Certification Program in Emergency Medicine (CPEM)* which was being established at that time. It highlighted the importance of targeted, short term educational endeavors in emergency medicine LMIC where there is a gross disproportion between the supply and demand of emergency healthcare provision.

2019

**Principal Investigator:** Salman S, Saleem G. 109

**Social Emergency Medicine: Pakistan perspective.**

*Annals of Emergency Medicine*. 2019 Oct 1; 74 (4): S44. (<https://doi.org/10.1016/j.annemergmed.2019.08.114>)

**Presented** at the American College of Emergency physicians (ACEP) Scientific Assembly at Denver, USA in 2019 where it was very well received by then ACEP SEM section head Dr. Harrison Alter and later led to my master's thesis on the same topic.

**Description:** Social Emergency Medicine (SEM) is an emerging specialty in EM and has the potential to make a positive impact in the challenging healthcare needs of Pakistan. With this view, I proposed the idea of development of a curriculum on SEM that would cater to Pakistani social determinants of health and would be used to educate residents in EM to identify and manage them in the ED. It was proposed that addressing the SDH in ED will lead to better patient outcome.

2019 Article on Congo Outbreak, Published in the **Daily Dawn**, September 4, 2019 (<https://www.dawn.com/news/1503394>)

### **Research Projects Awaiting Publication/ Approval:**

2024 **Principal Investigator:** Ali, S., Saleem, S. G., Khatri A., Mukhtar, S.  
**Use of Machine Learning to Identify High-risk Students in a One-year Certification Program in Emergency Medicine (CPEM) in Pakistan.**

**Description:** This study aims to look at the use of predictive analytics in the learners of a one-year certification program in emergency medicine. Two predictive models will be used to identify students who need extra learning support and the outcomes will be documented.

2024 **Co-investigator:** Saleem, S. G., Ali, S., Khatri A., Mukhtar, S.  
**Factors influencing length of stay in high acuity emergency department patients of a low resource tertiary care center.**

**Description:** The study will look at the factors that result in increasing the length of stay of high acuity patients in the emergency department. The results will identify the bottle necks in patient flow that burden limited resource setups and will result in improved process flow and patient outcomes.

2024 **Principal Investigator:** Ali, S., Saleem, S. G., Aziz, T.  
**Establishing the validity and reliability of self-efficacy in patient centeredness questionnaire (SEPCQ-27) in Pakistani emergency medicine physicians and nurses working at the Indus Hospital and Health Network (IHHN), Pakistan**

**Description:** The study is part of my PhD research which will assess the validity and reliability of the instrument called SEPCQ- 27 in the Pakistani perspective. The overarching themes of the questionnaire are empathy, self-awareness and shared decision making in patient-centered communication skills as perceived by emergency medicine physicians and nurses working across various IHHN campuses across the country.

2024

**Principal Investigator:** Ali, S., Saleem, S. G, Aziz, T

**Impact of a two-part interprofessional workshop on patient-centered communication skills on the self-efficacious communication assessment of emergency medicine physicians and nurses at the Indus Hospital and Health Network (IHHN), Pakistan**

**Description:** The study is part of my PhD and the aim of this study is to develop and conduct a two-part interprofessional workshop on patient-centered communication skills with the physicians and nurses. working across five IHHN EDs in the cities of Karachi, Badin, Lahore, Muzaffargarh and Gwadar and assess its impact on their practice of patient-centered communication skills.

2024

**Principal Investigator:** Ali, S., Saleem, S. G, Aziz, T

**Perception of Pakistani emergency medicine physicians and nurses regarding the impact of unique Pakistani cultural, ethnic, religious and geopolitical elements on the practice of patient-centered communication skills**

**Description:** The study is part of my PhD thesis and the aim of this study is to describe the perception of the EM nurses and physicians working at five IHHN EDs in the cities of Karachi, Badin, Lahore, Muzaffargarh and Gwadar in Pakistan regarding the impact of the unique Pakistani cultural, ethnic, religious and geopolitical elements on the practice of patient-centered communication skills.

2024

**Co-investigator:** Saleem, S. G., Ali, S., Khatri A., Mukhtar, S.

**Viewing leadership through the lens of complexity- Experience of conducting a structured, five-day course on emergency department leadership in a low-resource, tertiary-care center in Pakistan**

**Description:** Our study explores the use of complexity science in developing and executing a five-day leadership course to teach emergency department personnel regarding the teaching and practice of unique aspects of leadership in a low-resource Pakistani ED.

2024

**Co-investigator:** Saleem, S. G., **Ali, S.**, Khatri A., Mukhtar, S., Yaffee, A.

**PATH application pilot and feasibility testing.**

**Description:** This study is focused on the development and feasibility testing of an application called Prehospital Transport to Hospital (PATH) Application." This is administratively based at Emory University, Atlanta, Georgia, USA and involves institutional partners at The Indus Health Network in Pakistan. The core objectives focus on improving trauma care in Pakistan through development of a smartphone-based application to improve out-of-hospital trauma care as well as handoff procedures within the referral network.

2024

**Co-investigator:** Fareeduddin, M., Fatima, N., Naheed, A., **Ali, S.**

**Reclaiming Lost Innocence- Perception Regarding the Impact of a Hospital-Based School Program for Chronically Ill Pediatric Patients at a Low Resource Tertiary Care Center in Pakistan**

**Description:** To bridge the educational gap of pediatric patients presenting to the IHHN, a school-based educational program called "Indus kay Sitaray (IKS)" (The Stars of Indus) was initiated in 2018 by pediatric medicine in collaboration with the psychosocial care department. Since its inception, the program is aimed towards meeting the individual educational needs of the children where graduates are awarded certification in collaboration with a local school system and a letter facilitating their admission into mainstream schools upon completion of their medical treatment. The study aims to understand the perception of the care-givers of chronically ill pediatric patients, their educators, their physicians psychosocial care department personnel regarding the impact of the hospital-based school program on meeting the children's educational, social and emotional needs.

**Research Grants:**

2024

Principal investigator: **Ali S.**, Saleem SG, Khatri A, Rybarczyk MM.

**Acute Coronary Syndrome in a Pakistan ED: Risk Factors and Clinical Pathway**

**SAEMF/GEMA Academy Grant. (10,000 USD)**

**Description:** The study is aimed at improving the identification and management of patients with possible ACS presenting to the IHHN ED in Karachi, Pakistan through the identification of context specific risk factors and the development of a care pathway. The primary outcome is to improve the management of patients with possible ACS in the adult ED at the Indus Hospital and Health Network (IHHN) in Karachi, Pakistan. The secondary

objective is development of a risk prediction tool for those with suspected ACS in the adult ED at IHHN in Karachi, Pakistan.

2022

**Co-investigator:** Jabeen Fayyaz, MD, Adeel Khatri, MD, Dr. Phil. Margret Jaeger, Inayat Ali, PhD, **Saima Ali, MD**, Ghazanfar Saleem, MD, Sama Mukhtar MD, Isabel Theresia Gross, MD PhD MPH.

**Applying Critical Incident Framework Using Culture Shock in Pediatric Simulations to Promote Cultural Sensitivity in Pediatric Emergency Medicine in Pakistan.**

**International Network for Simulation-based Pediatric Innovation, Research, & Education INSPIRE Awards. (5000 USD).**

**Description:** The healthcare professionals in Pakistan need to be educated in Diversity, Equity and Inclusion (DEI) in view of the diverse and multi-ethnic cultural and religious beliefs. This can assure safe and quality care provision, especially in the vulnerable pediatric population. The study employed the use of Critical Incident Framework to identify culture shock that can be used to teach multi-disciplinary healthcare providers to deal efficiently with cultural shock situations. The development of curricula in consensus with Anthropologists resulted in increased awareness about cultural sensitivity.

2021

**Co-Investigator:** Jabeen Fayyaz, MD, Adeel Khatri, MD, **Saima Ali, MD**, Ghazanfar Saleem, MD, Sama Mukhtar MD, Isabel Theresia Gross, MD PhD MPH.

**Promoting Cultural Sensitivity in PEM by using Distance Simulation-Collaboration between SickKids, Yale University, USA, Indus Hospital and Health Network, Karachi, Pakistan.**

**University of Yale Grant: Innovation in Pediatric Education Grant Award at Yale University. (3,000 USD).**

**Presented** at Utrecht University's Conference on Developing Intercultural Competencies in Online and Physical learning Environments in 2021.

**Description:** A six-week, asynchronous distant simulation program was conducted with the Pakistani EM residents at IHHN and USA based PEM fellows from diverse cultural backgrounds. The aim was to understand and explore the concept of cultural sensitivity amongst the residents and fellows at both ends. The additional aim was to develop a sustainable working relationship between the respective institutes.

**Co-investigator:** Saleem, S. G., **Ali, S.**, Khatri A., Mukhtar, S., Yaffee, A.

**Prehospital Transport to Hospital (PATH) Application development**

**Fogarty International Center at the National Institutes of Health-  
“Mobile Health: Technology and Outcomes in Low-and-Middle  
Income Countries (mHealth).” (5,500 USD).**

**Description:** The objective of this grant was to develop and deploy Prehospital Transport to Hospital (PATH) Smartphone application – This mobile application-based prehospital communication, transport, and guidance system between bystanders, prehospital care providers (ambulance service) and emergency departments is aimed to improve field-based trauma care, transport to the appropriate referral network hospital, and hands-off and preparation for in-hospital providers. This will be pilot tested in Karachi, Pakistan, with the eventual goal of expanding throughout Pakistan.

**Research Supervision:**

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| 2022- Present | <p><b>Co-supervisor</b> MHPE thesis- Aga Khan University Hospital, Karachi, Pakistan.</p> <p>Topic: <b>Effectiveness Of an Innovative, Structured, Educational Project for Health Workers On Screening, Guidance And Referral Of Neonates With Congenital Anomalies</b></p> <p>Student Name: Dr. Shazia Junejo.</p> <p>Supervisor: Dr. Tabssum Zehra.</p>  |
| 2022- Present | <p><b>Mentoring</b> MHPE students in their research projects at Jinnah Sindh University Medical University (JSMU) and the Aga Khan University, Karachi, Pakistan.</p>  |
| 2018- Present | <p><b>Supervisor:</b> As a supervisor and examiner for EM training at the College of Physicians and Surgeons, Pakistan (CPSP), I have supervised the dissertations and research papers of 7 of my residents in addition to overseeing the research of the other residents in my department.</p> <ol style="list-style-type: none"> <li>1. Frequency of Chest Pain for Cardiac Origin amongst Patients Presenting with Acute Chest Pain in the Emergency Department at the Indus Hospital.<br/>Student Name: Dr. Afsah Khan.</li> <li>2. Use of Smart-Cop for Assessing Critical Care Admission in Community Acquired Pneumonia at the Emergency Department of a Tertiary Care Hospital.<br/>Student Name: Dr. Sabahat Fatima.</li> <li>3. Role of q-SOFA in Determining the Outcome of Patients Presenting to the Emergency Department with Sepsis.<br/>Student Name: Dr. Junaid Aziz Khan.</li> </ol> |



4. Validity of Ottawa Knee Rules in Assessing Traumatic Knee Injury In the Emergency Department of a Low Resource Setup.  
Student Name: Dr. Hiba Kauser.
5. Frequency of Positive eFAST scan in Patients Presenting with Blunt Trauma in a Low Resource Tertiary Care Hospital.  
Student Name: Dr. Sarfaraz Ahmed.
6. Diagnostic Efficacy of Bedside Dipstick Using (SD UroColor™ 10) Test Strips for Spontaneous Bacterial Peritonitis in Chronic Liver Disease Patients.  
Student Name; Dr. Yasin Iqbal
7. Epidemiology of Sepsis in Patients Presenting to pediatric Emergency Medicine Department of a Low Resource, Tertiary Care Hospital in Karachi.  
Student Name: Dr. Sindhu Sangrasi.

### Scholarly Presentations:

#### International:

- |      |  |
|------|--|
| 2024 | <b>Invited Speaker:</b> Virginia Common Wealth School of Medicine (VCU SOM) Conference, March 2024- <b>Balancing Power, Sharing Privilege and Ensuring Sustainable Development through Education</b>   |
| 2023 | <b>Invited Speaker:</b> Virginia Common Wealth School of Medicine (VCU SOM) Conference, March 2023- <b>Equity in Global Research</b>   |
| 2022 | <b>Invited Speaker:</b> Stanford University, Global Health Course- <b>Global Health: Beyond Diseases and International Organizations.</b>  |
| 2022 | <b>Invited Speaker:</b> CORD Academic Assembly- EMRA International Committee- Challenges, Growth, and Benefits of Virtual Global Health Endeavors and Education- <b>Capacity Building in EM.</b>   |
| 2021 | <b>Invited Speaker:</b> Virginia Common Wealth School of Medicine (VCU SOM) Conference- Challenges and Solutions of Curbside to Bedside Acute Care in Low Resource Setting. ( <a href="https://vcu.mediaspace.kaltura.com/playlist/dedicated/1_akefipnk/1_v8z6xsiw">https://vcu.mediaspace.kaltura.com/playlist/dedicated/1_akefipnk/1_v8z6xsiw</a> ). <b>Discovering Novel Educational Strategies for EM Residents in Pakistan.</b> |
| 2021 | <b>Invited Speaker:</b> Women in Emergency Medicine International Celebration, Emory University, USA.  |

#### National:

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|------------------|---|
| 2018- till date: | <b>Invited Speaker:</b> Indus Yaqeen, IHHN youth development program.   |
| 2023             | <b>Invited Speaker:</b> Ziauddin Medical University, Karachi- Education Hour, May 2023. Role of Portfolio in Medical Education. |

- 2022 **Invited Speaker and Session Lead:** PIMA- Session on Emergency Services and Disaster Management.
- 2022 **Invited Speaker:** National TV appearance on ***Awareness Program on Heat Related Emergencies.*** (<https://www.youtube.com/watch?v=44YxuQMtCc4>).
- 2022 **Invited Speaker:** Session on Work Life Balance, Indus Hospital and Health Network.
- 2022 **Invited Speaker:** National TV appearance on ***Awareness Program on COVID-19*** (<https://www.youtube.com/watch?v=GEGjNPUV1V0>).
- 2022 **Invited Speaker:** The Aga Khan University Virtual Magazine-The Graduate, AKU Alumnus Speech (<https://www.youtube.com/watch?v=6hH2tDslHiA>).
- 2021 **Invited Speaker:** Session on Healthcare Worker Burnout and Compassion Fatigue, Indus Hospital and Health Network.
- 2021 **Invited Speaker:** National TV appearance on ***Awareness Program on Emergency Medicine*** ([https://www.youtube.com/watch?v=5b0d\\_DZNp84](https://www.youtube.com/watch?v=5b0d_DZNp84)).
- 2021 **Invited Speaker and Session Lead:** Pakistan Society of Emergency Medicine Virtual Conference Session- Women in EM. ***From Eve to EM-Equity, Equality, Access and Opportunity.***
- 2020 **Invited Speaker:** Podcast on COVID-19 (<https://fb.watch/gdVKEsITYU/>).
- 2020 **Mentor:** AKUH Hackathon. School Preparedness for Emergencies.
- 2018 **Invited Speaker:** 53<sup>rd</sup> Annual Symposium of Jinnah Post Graduate Medical Center (JPMC).
- 2018 **Invited Speaker:** Emergency Medicine and its Integration in Tertiary Care, Indus Hospital and Health Network.

#### **D. Academic Activities:**

##### **Teaching Philosophy:**

*'It is the supreme art of the teacher to awaken joy in creative expression and knowledge.'* –Albert Einstein

The pathway to self-discovery and awakening is wrought with trial and error. We chart a course and yet life takes us on another journey, but in spite of all the curve balls thrown our way, there are things in our lives that stay constant. They can be people, ideas, motivations and beliefs and they define us as a person more than anything else.

For me, one of the constants was that I wanted to teach. I will not say I was particularly good at it but it was something that was close to my heart and came naturally. After completing my MBBS

from Dow Medical College and getting my FCPS in Internal Medicine, the idea was further strengthened. Having met a lot of great teachers and some not-so-great ones along the way, witnessing Medical Education and the way it was taught as an opportunistic art in the majority of our medical colleges, reaffirmed my faith that if we can produce amazing doctors with this kind of education, imagine what we can do if we actually had trained medical educators.

All of us have our unique learning styles and as adult learners we know what works for us, but for a novice medical student or a young resident, gentle but firm supervision can prove to be the cherry on top. Knowing yourself and what helps you progress as a student flourish with the right guidance. We all remember the good qualities of our teachers but more than that we remember the bad ones. Teaching effectively requires all those good qualities and so much more.

The journey to becoming a teacher, for me, came with self-realization. I was able to communicate my perspective and knowledge in a way that people understood but there lacked a method to my madness. That was one of the prime reasons for getting enrolled in the MHPE program and it was a journey of self-discovery. The program gave me the tools to understand not only my own teaching style but has led to an in depth understanding of today's learners and what their unique challenges are. These tools have helped me understand how curricula are developed, how programs are evaluated, how students are assessed, what are the hindrances and issues in developing leaders of tomorrow along with the importance of research in health professions education.

The prime development in my teaching style is the incorporation of feedback, encouraging reflection and helping my students answer the WHY in all aspects of their journey. Being the first program director for Emergency Medicine at The Indus Hospital and Health Network, made me understand the enormity of the task of molding young minds with gentleness and kindness. The novice learners have to be socially accountable and aware of their responsibility to the society. The need of the day is to develop doctors who are cognizant of their contribution towards the noble profession that they have chosen along with the ability to reinvent themselves with changing times.

## **Innovations in Education and Leadership:**

### **1. EM Residency Program 2018- Present:**

The EM residency program was started in 2018 with the College of Physicians and Surgeons Pakistan (CPSP). It was an uphill task as the college has very strict criteria for accreditation of EM residency programs. As the first program director, I ensured that the program was innovative and utilized proactive engagement of the learners through a strong emphasis on simulation-based learning and creation of a student-centered learning environment. This makes us, one of the most sought-after EM residency programs in Pakistan. In addition to mandatory rotations and education through a structured EM curriculum; the residents are encouraged to expand their horizon through yearly modular sessions with the Emory University for Toxicology and the Hospital for Sickkids, Canada for Pediatric Emergency Medicine. This year, the program aims to start the residents' rotations to the IHHN network hospitals across Pakistan to develop rural EM physicians and also plan to send residents to hospitals in the USA as observers.

The strength of our residency program lies in collaborative learning using bedside teaching modalities interspersed with reflection. The program aims to develop the residents as global EM physicians, rooted to the healthcare needs of their people, yet contributing to the international EM scene. Our residents are frequent presenters in national and international conferences and have brought laurels to the institute. The focus is also on physician wellbeing and special measures are taken to ensure that their physical and mental health is prioritized. The resident portfolio developed by me has also been adopted at the institutional level and our teaching sessions are attended by residents from not only other specialties but also from other hospitals.

## **2. Certification Program in Emergency Medicine (CPEM) 2018- Present:**

CPEM is a competency-based training program which aims to equip physicians working EDs with the fundamental knowledge and clinical expertise in the practice of emergency care. This one-year program was developed by EM professionals in July 2018 at IHHN, Karachi and initially Brigham and Women's Hospital – a teaching affiliate of Harvard Medical School Boston, USA. It is now led by EM personnel from IHHN and UPenn, Philadelphia, USA. The program focuses on didactics and hands on skill development and has been very well received across the country. I am one of the lead facilitators for the program and it has a multi-national team of visiting faculty from countries all over the world.

The program has graduated 4 cohorts with the 3rd cohort including participants not just from the Pakistan but also from hospitals across Bangladesh. The impact of the program has been seen not only in the learners but also as improvement in clinical outcome of patients. (<https://indushospital.org.pk/education-research/emergency-medicine-programs/certification-program-in-emergency-medicine/>). The 5<sup>th</sup> cohort of CPEM is currently underway.

As an off shoot of CPEM, a five-day EM leadership course is being held every October since 2022 for EM personnel across the country. The innovative program has been developed to include multiple aspects of EM leadership. As one of the course developers, it is our aim that the participants not only understand but practically work around the various challenges that an EM leader has to face and come up with practical solutions themselves. (<https://indushospital.org.pk/event/ihhn-emergency-medicine-leadership-course/>).

## **3. Collaborative Advanced Trauma Course (CAT-C) 2019- Present:**

The first iteration of CAT-C was developed and conducted in September 2019 in collaboration with Emory University, USA. The program is an inter-specialty course that trains EM physicians and nurses along with members from other surgical specialties, involved in management of trauma. The program has trained more than 120 candidates across Pakistan as it has been conducted at various cities across the country.

Other than Pakistan, the program has also been conducted in other countries like Vietnam, Ethiopia and Turkey.

#### **4. Simulation Educators Workshop 2022- Present:**

This program is specially tailored for development of simulation educators. It is a three-day workshop conducted in collaboration with the Hospital for Sickkids, Canada and is accredited by Hamad Medical Centre, Qatar. Five iterations of the workshop have been conducted so far; three on-line, one detailed in-person workshop and 2 expedited one-day workshops. The on-line workshops have had participants from various hospitals across Pakistan as well as from as India and the United Kingdom.

#### **5. Foundation Program in Pediatric Emergency Medicine (F-PEM) 2022- Present:**

This Simulation-based, modular training program in Pediatric EM is geared towards educating PEM physicians who are working across Pakistan and have not received any formal structured training in PEM. It is a one-year specialized program with a strong emphasis on simulation-based learning using a combination of both virtual and in person sessions. Through the weekly sessions, a strong community of national PEM physicians is being developed. One cohort of the program has graduated and the second cohort is due to graduate in October 2024. The plan is to develop a fellowship in PEM and strengthen the practice of PEM in Pakistan (<https://indushospital.org.pk/education-research/emergency-medicine-programs/f-pem/>).

### **E. References**

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