Are there differences between student performance after rotations at tertiary and community Emergency Medicine teaching sites?

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ABSTRACT

Background: Undergraduate medical Emergency Medicine (EM) rotations are often completed at either tertiary care centres or regional community hospitals. While the latter offer students exposure to different practice settings and population needs, many students perceive that teaching at tertiary care EM departments is superior to that in community hospitals. At our institution, third year undergraduate medical students complete a three-week EM rotation at either a tertiary centre or a community hospital. We compared academic and clinical performance between students trained in these settings.

Summary of Work: Academic performance in EM was evaluated based on the results of an EM-specific multiple-choice examination (MCQE). The 40-question MCQE is administered quarterly and includes both old and new questions to ensure consistency. Clinical performance was evaluated using an annual Objective Structured Clinical Exam (OSCE) assessing competency in a range of clinical scenarios commonly addressed in EM. The OSCE is a validated assessment tool scored on a pass/fail basis. We reviewed MCQE and OSCE scores from three consecutive cohorts of students. Students were pooled into two groups, tertiary and community, based on their EM training site. We compared academic and clinical performance between students trained in these settings.

Summary of Results: MCQE and OSCE scores from 312 students over three consecutive cohorts were analyzed. Cohorts included 104, 100, and 108 students with 61% trained in tertiary centres (N=191). Students trained in tertiary centres had a mean MCQE score of 77%. Students from community centres had a mean score of 78%. There was no significant difference in MCQE scores between groups (p=0.6099). The OSCE pass rate was 97% for students trained in tertiary centres and 98% for students trained in community centres. OSCE pass rates were not significantly different between groups (p=0.8145).

Discussion and Conclusions: There was no significant difference in MCQE and OSCE performance between medical students training in tertiary and community hospitals.

Take-home Messages: Despite student perceptions that training in tertiary care EM centres was superior, objective analysis showed similar academic and clinical performance regardless of training site.

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ABSTRACT

Background: The Entrustable Professional Activity (EPA) of Patient Management includes the clinical pharmacology domain. Within this domain students are expected to synthesize and apply basic and clinical pharmacology knowledge and skills as they progress through clinical instruction. In a distributive model of clinical education, the assessment of trainees is often performed by third party clinical instructors who may not be trained to assess specific domains like clinical pharmacology. We designed this study to determine how clinical instructors evaluate learners during clerkships, when considering EPA-specific domains like clinical pharmacology.

Summary of Work: The paucity of specific milestone data made review of the clinical pharmacology domain and its corresponding milestones impossible; thus, the purpose of this study is to fill in the gaps by developing a cognitive framework to explain the decision-making process of clinical instructors when they are assessing Year 3 students in the clinical pharmacology domain. Using a modified systematic grounded theory approach, we conducted and analyzed semi-structured interviews with third party clinical instructors in a Year 3 veterinary curriculum. Transcribed interviews were coded, and emergent themes were discussed and refined until a cognitive framework was reached.

Summary of Results: Clinical instructors predominantly use question-answer sessions of various formats to evaluate the knowledge, skills and attitudes of students. Previous student experience both within and between clerkships feed back into the assessment process. Clinical instructors assess students often while simultaneously teaching clinical pharmacology content.

Discussion and Conclusions: We developed a cognitive framework to explain how clinical instructors assess students in the clinical pharmacology domain. This cognitive framework is applicable in a variety of clinical contexts and is likely to apply broadly to many clinical domains and across the spectrum of professional health care curricula.

Take-home Messages: Clinical instructors rely heavily on question-answer sessions with students when assessing the clinical pharmacology domain of the Patient Management EPA. Clinical instructors base their assessment on a combination of student knowledge, clinical skill, and attitude. Assessment opportunities are often intimately associated with teaching opportunities in the clinical setting, making it difficult for the clinical instructor to differentiate between the two modalities.
Service, clinical exposure and clinical department influence on House Officers (HO) / Post Graduate Year 1s (PGY1) training satisfaction

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ABSTRACT

Background: HOs/PGY1s rotate through 3 x 4-monthly postings to the departments of Internal Medicine (compulsory), General Surgery and/or Orthopedics (1 compulsory surgical posting), O&G or Pediatrics. We experience fluctuation in number of PGY1s allocated to various departments throughout the academic year 2017. We aimed to elucidate factors that influence HOs/PGY1s training satisfaction to further improve our training program.

Summary of Work: A standardized HO/PGY1 rotation evaluation form with 50 questions was administered to all HOs/PGY1s through an online learning management system (New Innovations) at the end of their postings between May 2017 and June 2018. The evaluation form assessed factors such as duty hours, faculty supervision and education activities. Rotation evaluation results across training institutes and disciplines were compared. The data was analyzed using IBM SPSS Statistics software.

Summary of Results: 406 PGY1s responded to the evaluation. We found that there were no differences in the PGY1 posting evaluation results between HOs/PGY1s who graduated from local medical schools and those who graduated from overseas medical schools, as well as between HOs/PGY1s who were rotated in the same Sponsoring Institute for the entire PGY1 year and those who had rotations in other Sponsoring Institutes. The satisfaction level of Discipline D (anonymized discipline) from Training Institute 3 (anonymized Institute) was significantly lower than Discipline D in Training Institute 1 (anonymized Institute).

Discussion and Conclusions: The data shows that the HOs/PGY1s were less satisfied with their posting experience in their 3rd posting compared to their 1st posting. The satisfaction level of Discipline D from Training Institute 3 was significantly lower than Discipline D in Training Institute 1. A focus group discussion has been scheduled to identify the differences between Training Institute 1 and Training Institute 3. We will remove the rotation evaluation forms question 10 and 11 from future studies, as they are not significant.

Take-home Messages: We need to identify the factors that caused the satisfaction level of Discipline D from Training Institute 3 to be significantly lower than Discipline D in Training Institute 1, so as to further improve our training program.
Singapore Neuroimmunology Rounds - developing a Community of Practice for education and improved management of neuroimmune disorders

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ABSTRACT

**Background:** A Community of Practice (CoP) is a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Beverly & Etienne Wenger-Trayner.) This aptly describes a group of Singaporean neurologists and nurses who started with ad hoc neuroimmune case discussions and decided to continue meeting up.

**Summary of Work:** Objective: To describe Singapore Neuroimmunology Rounds as a community of practice and its benefits to treatment, education and collaboration. Methods: Descriptive analysis of our experience with the evolution and development of the Singapore Neuroimmunology Rounds.

**Summary of Results:** Rounds have been occurring every two months since end 2013. These were initially informal case discussions involving a few neurologists. Since then they have evolved to organised grand rounds, rotating between 5 specialist hospitals. Average group attendance now is 15-20 people with paediatric and adult neurologists, trainees, nurses and ophthalmologists represented. Cases include but are not limited to multiple sclerosis (MS), neuromyelitis optica (NMO) and autoimmune encephalitis.

**Discussion and Conclusions:** Benefits of CoP have included tackling complex diagnostic and management cases with collective group wisdom, sharing patient safety and treatment protocols. Interprofessional education opportunities spawned naturally - eg neuroscience nurse-led education meetings. Innovations in practice have been shared such as MS care quality and addressing fatigue in NMO and MS. Peer review has evolved into best practice as a Community. Just as Wenger describes, we continue growing as a Community of Practice - this group of people who share a passion for neuroimmunology and are learning how to do it better as we interact regularly.

**Take-home Messages:** For complex, multi-discipline neuroimmune disorders, a Community of Practice is a very good model for enhancing education Combining deliberate organisation and spontaneous growth is the most beneficial A community of practice fosters interprofessional education.
An evaluation of an introductory integrated clerkship in a new medical college in the Middle East: What are the perceived barriers to clinical learning?

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ABSTRACT

Background: In 2019 our first cohort of 46 medical students entered an integrated introductory clerkship in medicine and surgery in 2 district general hospitals in year 4 of a 6 year program. Neither hospital has previously regularly taught medical students. The clerkship was designed to gain familiarity with the hospital setting and services for patients and encourage students to clerk and learn from patients. In preparation for clinical care, students attended regular clinical placements (2-3 hours) in the primary health centres since year 2 and completed a weekly comprehensive clinical skills program.

Summary of Work: To better understand challenges faced on embarking on clinical experiential learning in hospital placements, we performed a detailed evaluation (questionnaire and focus groups) early (two weeks after introducing the clerkships) and at the end of the 14 week clerkships. We surveyed students about the perceived barriers to clinical learning in the hospital setting.

Summary of Results: A preliminary early evaluation completed by 24/46 students to date showed placements support learning about clinical care, multidisciplinary teams, the management of common clinical problems and ethical and professional dilemmas. 67%, 54% and 67% felt hospital placements had already improved their history taking, physical examination and clinical reasoning skills respectively. Preliminary results indicate the main perceived barriers to learning about clinical care were: Doctors too busy to teach (54%); doctors not seeming interested in students’ learning needs (33%), a lack of understanding of clinical medicine at this stage (63%); and learning outcomes being unclear (83%). In addition, 63% reported at least one of shyness, embarrassment in talking to patients, lack of assertiveness at gaining learning opportunities and/or preferring to learn from doctors.

Discussion and Conclusions: Early feedback on hospital clinical placements in a new medical program is useful to allow proactive input into improving hospital clinical experience as the program evolves. We have identified early that students’ personal qualities and perceptions are additional important areas requiring support.

Take-home Messages: Introducing a clerkship in a new medical program in the Middle East requires attention to the core elements and support for students transitioning into learning in the clinical environment.
A Study on the Value of Clinical Attachments in Enhancing the Competency of Medics

AUTHOR(S):

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ABSTRACT

Background: A pilot quasi-experimental study was conducted by the Singapore Armed Forces Medical Training Institute (SMTI) to examine the value of cross-attachment of Emergency Medical Technicians (EMTs) to the National Emergency Ambulance Service (EAS) operated by the Singapore Civil Defence Force. As EMTs do not undergo clinical attachments during the course of their training, this study serves to elicit the value of such unstructured clinical attachments in enhancing the clinical competency of medics.

Summary of Work: 10 EMTs (treatment group) who recently completed their training in SMTI were selected to participate in a 12-week on-job-training attachment to the National EAS, where they will function as part of the ambulance crew. A further 10 medics (control group) were matched to the treatment group and underwent routine deployment in military medical centres over the same period. All participants underwent the same pre- and post-attachment tests consisting of a theory test, a medical emergency practical test and a trauma emergency practical test designed specifically for the study. They were also provided with a logbook to record the number and type of cases encountered during their attachment. Data was analysed using statistical techniques.

Summary of Results: Pre-attachment scores between the two groups showed no significant differences, which demonstrated adequate matching. At the end of the study period, the treatment group performed significantly better than the control group in the trauma emergency practical test ($p=.014$) and medical emergency practical test ($p=.030$). The control group demonstrated no significant differences in test results at the end of the study period. The study also revealed that the treatment group was exposed to a significantly larger number of cases during the study period ($p=.00018$).

Discussion and Conclusions: This study indicates that the attachment programme significantly contributes to the EMTs performance in emergency scenarios. Further experimental research with a larger sample size and randomized selection design would be essential to provide more insights. Regardless, the study provides strong justification for clinical attachments to be included as part of the EMT’s training, and is an excellent example of evidence-based policy decision-making applied in the military medicine context.

Take-home Messages: Clinical attachments expose trainees to various emergency scenarios and therefore, optimise their clinical performance.
Challenges of designing and implementing teaching rounds in the emergency department: A survey of Chinese Emergency Medicine attending physicians

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ABSTRACT

Background: Teaching round (TR) faces significant challenges in the emergency room (ER) due to the unique clinical environment and patient case mix. This study aimed to evaluate the confidence level and perceived challenges of emergency medicine (EM) attending physicians when designing and implementing TR in the ER.

Summary of Work: We distributed a pre-course survey to a cohort of EM attending physicians who enrolled in an educational TR workshop in the Peking Union Medical College Hospital (PUMCH). We examined consent participants of their confidence/perceived challenges in designing/conducting ER TR, and by baseline characteristics. We presented categorical measures in raw counts and percentages with the Fisher's exact test used for statistical significance test.

Summary of Results: The workshop enrolled 64 EM attending physicians (30 hospitals) interested in improving bedside TR. 60/64 provided answers to the pre-course survey, with 88% from third-tier centers, 65% being age 36 or above, 50% female, 37% senior. Most physicians saw the benefit of TR for trainees (75%), however, less saw the benefit for patients (53%). Although most physicians had experienced TR as trainees (85%) or instructors/co-instructors (72%), only 33% had designed or felt confident in designing TR (17%). Top three frequently identified challenges were lack of formal training in design (63%), followed by lack of trainee participation (43%), and conflict with clinical work (32%). Senior physicians were more confident in designing and implementing TR than young and junior colleagues, and they had different perceived challenges in TR. However, we did not achieve statistical significance.

Discussion and Conclusions: Our survey has quantitatively evaluated Chinese EM attending physicians regarding the perceived value, challenges and confidence in design/conduct TR in EM. We identified the large knowledge gap in designing effective TR, and the commonly shared concern over TR’s conflict with clinical work and lack of benefit for patients.

Take-home Messages: Most EM attending physicians in China are not equipped with the knowledge to design effective TR. While most of them see the great value of TR, they are also aware of the negative impact of TR on clinical work and patient benefit.
Evaluation of bedside teaching programme in surgical clerkship

AUTHOR(S):

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ABSTRACT

Background: Bedside teaching is an important means to enhance student's clinical experience as well as psychosomatic skills. Group size and scenario learned are key success factors. There was a change in teaching ward round in the last 4 years, and this needed to be evaluated.

Summary of Work: In 2013-14, student morning ward rounds were carried out in a group of 14-16 4th year students led by a single instructor, while in 2015-16 word rounds were co-instructed by four different instructors on different rotation and a ward round group were reduced to four students. At the end of the clinical clerkship, the students assessed by MCQ and OSCE. We compared the MCQ/ OSCE scores between the students receiving different methods of teaching word round using Mann-Whitney-U test.

Summary of Results: There were 32 and 29 4th year students in Years 2013-14 and 2015-16 respectively. The two cohorts had comparable GPA. The mean MCQ score significantly increased from 89.43 to 93.03 (p=0.01), while OSCE scores were not changed (p=0.31)

Discussion and Conclusions: Small group and exposure to different patients' conditions under supervision of different instructors helped enhance learning outcomes. Additionally, actively educating instructor is an importance factor of effectively bed side teaching and providing practical essential to the students.
Ward Round: Education Time or Punishment?

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ABSTRACT

Background: Ward round attendance is a fundamental part of a student's clinical experience and offers an abundance of learning opportunities. Despite being a ubiquitous part of clinical life, these learning opportunities are not always accessed, with students often remaining passive observers. Additionally, doctors have to complete a clinically safe ward round whilst also attempting to teach, often without any formal teaching training.

Summary of Work: We surveyed 77 undergraduate students and 50 junior doctors about their experiences of teaching on ward rounds. Based on these results we designed a unique 7-point learning tool: 'The Ward Round Dissected' asking students to consider and reflect on aspects such as important diagnoses, interpreting investigations and ethico-legal issues that they may encounter. Students are given the tool at the start of the round and asked to use it for critical observation and reflection with a short follow-up session led by a doctor after the round.

Summary of Results: Over a fifth (21%) of students described ward rounds as 'not valuable' and only 2% described them as 'very interesting', with over a quarter describing them as 'not at all interesting'. When asked which words best describe their feelings about ward rounds: 72% said tedious and only 35% described them as educational and 15% as engaging. Nearly three-quarters (72%) of students felt their experience would improve if they were allocated a task and 25% felt a learning tool would be helpful. For doctors the biggest barriers to giving teaching were 'workload' and 'difficulty structuring'. When given our tool to use during ward round students and doctors gave positive feedback in terms of improved interest, usefulness and engagement.

Discussion and Conclusions: It is clear there are significant barriers to teaching and our results are damning in their view of ward rounds as a learning opportunity currently. Our tool structures ward round teaching in the face of high doctor workloads and can help promote both self-directed learning and reflective practice by students. It helps students consider oft-overlooked areas, such as ethico-legal, communication and teamwork factors; giving them a framework for critical analysis and thereby helping them consolidate theory into practice.

Take-home Messages: Isn't it time you dissected your ward round?
Expecting the unexpected - post graduate teaching on a general medicine ward round

AUTHOR(S):
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ABSTRACT

Background: It’s difficult to define general medicine - undifferentiated, complex, multidisciplinary or when other specialties throw up their hands in despair. Similarly, patients admitted under general medicine conform to some or all the above. The challenge to the internist lies in differentiating the wheat from the chaff, dissecting the problem, prioritising and identifying key areas which require immediate (hospitalised) attention. Apart from medical conditions, we have patient preferences, quality of life and contextual features which add colour to the patient interactions. All in all, this yields a fertile ground for grooming young trainees in general medicine. When a lot of medical teaching is being transitioned to competency-based assessments, Objective Styled clinical examination's and simulation, little is being said and done about tapping the bedside clinical environment and harnessing it to a more meaningful, enriching experience for the patient and the learner.

Summary of Work: We gathered a qualitative feedback (via a set of questions) through personal interviews with five educators in general medicine (2 senior clinicians, 2 middle rank clinicians and 1 recently appointed clinician) and 10 learners to understand the expectations and needs of the learners and their opinion and review on bedside teaching.

Summary of Results: The results of the survey revealed that though the common fibre of importance of bedside teaching was understood across the board, issues such as the uncertainty, lack of uniformity, varied experiences and non-structured encounter added to the discomfort of the teacher and the learner. On reflection, the medical educators felt that the learners were not primed enough to face uncertainties. The learners opined that often this could lead to delayed ward rounds at the cost of other competing work at hand; and inability to have a sense of time control.

Discussion and Conclusions: Though bedside teaching during ward rounds may not yield immediate results in terms of efficiency and hard (medical knowledge) facts, they go a long way in mentally preparing the learner to grapple with uncertainties and build up their comprehensive thinking ability in dealing with the human nature of problems rather than just medical diagnosis.

Take-home Messages: Uncertainty in bedside teaching - accept the challenge; and move ahead.
#3EE ePosters - Workplace Based Learning

**3EE11 (3105)**

**Date of Presentation:** Monday, 26 August 2019  
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**How Students Learn in Field Experience (Medical Elective Program) in College of Medicine - King Saud bin Abdulaziz University for Health Science**

**AUTHOR(S):**
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**ABSTRACT**

**Background:** The Medical Elective Program is a clinical experience program for first year medical students in the College of Medicine at King Saud bin Abdulaziz University - Riyadh. It provides students with the opportunity to explore career possibilities, to gain experience in aspects of medicine beyond core curriculum, and to study subject in greater depth. Aim: Evaluate the medical Elective Program and identify the factors that prohibit or enhance the students' learning in such program. Objectives: To identify the factors affect student performance during the elective program. To assess the association between the field of elective training and the number of working hours. Determine the relation between training and supervisor availability.

**Summary of Work:** This is a qualitative and quantitative cross-sectional study conducted in the College of Medicine-Riyadh at KSAU-HS. The data were collected from 589 students upon their completion of medical elective program. The data was collected using student evaluation form of the medical elective program, focus group and interviews to the 10 of supervisors. For purpose of assessing the overall quality of the elective, the field experience, student activities, supervisors involvement, and duration spent per week. we used SPSS version 21. P- value < 0.05 declared as statistically significant.

**Summary of Results:** The overall quality assessment of the medical elective program was Excellent and very good. There is significant relationship between the quality of the program and the supervisor involvement in training during the elective. Pediatrics departments showed the significant different in students activity along with the supervisor involvement The quality of medical elective on emergency medicine, was significantly higher than those who took their elective in surgery, medicine, family medicine and other specialties.

**Discussion and Conclusions:** There is an association between the number of working hours spent per week and the quality of Medical Elective Program. There is an association between the student activities during their elective and the quality of students' learning. There is an association between the supervisor involvement during the elective and the quality of students' learning.

**Take-home Messages:** Students activities, duration spent in the field and supervisor involvement are important factors for the success of the Program.