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Medical students in search of research?

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of Medicine (RUSM) and that success in MERP would correlate with performance at RUSM. MERP, a 15-week basic science curriculum with non-cognitive skill building sessions and repeated assessments, provides an opportunity for the initially rejected applicants to improve their potential as medical students before matriculating to RUSM.

Performance of 896 students, who began RUSM after successfully completing MERP, was compared with 3324 directly admitted non-MERP students. Pre-admission criteria (prerequisite GPA (pGPA) and MCAT scores), performance at RUSM (attrition rates prior to semester two and five), and US Medical Licensing Examination (USMLE) Step 1 pass rates were compared for cohorts matriculating to RUSM between January 2007 and May 2010.

As expected, MERP students had lower average MCAT score (20.99±4.18 for MERP and 23.62±4.23 for non-MERP, p < 0.001) and average pGPA (2.67±0.38 for MERP and 3.14 ± 0.42 for non-MERP, p < 0.001). Despite lower preadmission credentials, MERP students were more likely to matriculate to semester two. The attrition rate prior to semester two was 5.6% for MERP students, compared to 11.2% for non-MERP students (χ^2 (1, N=4220) = 24.48, p < 0.001). The rate of attrition prior to semester five was comparable for both groups. Students who achieved an overall score of 80% or above in MERP were significantly more likely than non-MERP students to reach semester two, $\chi^2(1, N=3633)=38.411$, p < 0.001, and semester five, $\chi^2(1, N=3633)=30.806$, p < 0.001. Of the 309 MERP top-performers, 100% reached semester two, while 94.2% reached semester five.

Comparing the USMLE step 1 scores revealed that MERP and non-MERP students did not differ significantly on the probability of passing the Step 1 on their first attempt, $\chi^2(1, N=2405)=1.228, p=0.268$. Although MERP students averaged below their non-MERP counterparts (211.1±17.4 and 214.8±19.5, p < 0.001 for MERP and non-MERP, respectively), this effect size (d=0.20) was less than the pre-existing differences between the two groups on MCAT (d=0.72) and pGPA (d=1.04).

Our data suggests that previous academic performance and career background may underestimate true capacity of an individual as a medical student. Achievements in MERP or similar programs can help predict academic success of potential candidates in medical school.

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Medical students in search of research?

Dear Sir

Advances in biomedical research over the last decades have highlighted the need to attract larger number of physicians to careers that include research (Houlden et al. 2004). In particular, physician participation in research is essential to increase the number of clinical and research studies performed. Consequently, it is important to make students aware of the relevance of research during their medical training and encourage them to participate in it (Reinders et al. 2005).

According to the literature, there is a lack of information on the awareness, perceptions and attitudes of medical students in the Middle East and the Gulf Region with respect to research. Furthermore, there is a similar lack of data on the factors that lead a medical student to decide to pursue a research career.

We evaluated student awareness of research opportunities in the College of Medicine of King Khalid University. We asked all 590 undergraduate students studying medicine in the academic year 2010/11 to complete a questionnaire. With a response rate of 93% (346 male and 202 female), this questionnaire assessed student perceptions and attitudes towards medical research. The factors determining a student's willingness to take up a research career were also analyzed. The questionnaire contained a combination of Yes/No questions and items which asked for a response on a Likert scale ranging from 1 (not very significant) to 5 (very significant).

The majority (55%) of the participants felt that research in the field of medicine is important; however, only 49% felt that research would be their future career choice. The greatest barriers to getting involved in research during medical study were the lack of time, availability of research mentors, and formal training in research methodology. The students' opinions about the attractiveness of research as a career (status, financially) were low.

This study shows that although medical students are interested in research, they face difficulties in doing research and hence are less enthusiastic in seeking a research career. Financial incentives would help motivate medical students to pursue a research career.

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In-flight medical emergencies: creation of a novel simulation based medical student curriculum

Dear Sir

An estimated 20,000 in-flight medical emergencies occur in the United States annually (Silverman & Gendreau 2009). Aircraft cabins are loud, confined spaces, without direct access to established medical care (Mattison & Zeidel 2011). The reduced humidity and atmospheric pressure, and loss of personal mobility all present specific pathophysiologic considerations for physicians that respond to a fellow passenger in need (Silverman & Gendreau 2009). There are no United States medical school curriculum requirements specific to this community need.

We hypothesize that medical students do neither feel comfortable assisting during an in-flight medical emergency nor do they have an adequate fund of knowledge in this area. Additionally, we hypothesize that a focused curriculum, including a simulated medical emergency in a mock aircraft cabin, will improve both comfort and fund of knowledge.

Thirty-seven medical students completed a 90-minute curriculum on in-flight medical emergencies. The curriculum consisted of a lecture attended by the entire group and a simulation case. All participants completed a baseline questionnaire prior to learning the curriculum. This document included demographic information, self-assessment questions addressing their perceived knowledge of several aspects of in-flight medical emergencies, and fund of knowledge questions. Participants then completed the simulation case. After completing the simulation scenario, 22 students also completed a post-session questionnaire. Descriptive statistics were performed on the baseline questionnaire. Pre- and post-session questionnaire results were compared with *t*-tests.

Ten (27%) of the participants had been on an aircraft during a medical emergency, but only one (3%) of the participants had assisted in management of the emergency. One participant (3%) had prior training in flight physiology or in-flight medical emergencies. Students expressed poor initial selfassessment of knowledge, confidence and competence, with a mean Likert-type question response less than 3 (1 representing strong disagreement, 7 representing strong agreement). Initial mean score on fund of knowledge questions was 64% (95%) CI: 59–69%). Of the paired responses, the mean fund of knowledge score increased from 61% to 91% (p < 0.0001) and all of the mean self-assessment responses increased ($p \le 0.001$).

The participants' responses to both subjective and objective questions indicated that they were not optimally prepared to render aid during in-flight medical emergencies. Our curriculum improved their scores on objective and subjective questions, indicating they may be better prepared to respond to future in-flight medical emergencies. If replicated on a larger scale, medical schools should consider adding basic training for in-flight emergencies to emergency medicine curricula.

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Health literacy Objective Structured Clinical Exam for family medicine residents

Dear Sir

We developed a health literacy curriculum to train Family Medicine residents how to effectively communicate with the growing numbers of patients challenged by limited health literacy. The purpose of this letter is to provide an overview of this curriculum, which can be used as a model for training providers in different medical education settings.

Our curriculum includes a 90-minute workshop and Objective Structured Clinical Exam (OSCE). It was piloted in the UT Southwestern Family Medicine Residency, which includes 28 postgraduate residents on a three-year training program. The curriculum is designed to train residents how to (1) administer and score the results of the Newest Vital Sign to measure health literacy in English (Weiss et al. 2005), (2) practice the ASK ME 3 communication method (National Patient Safety Foundation 1997), (3) employ the teach-back method and (4) work with an interpreter. Residents learn these techniques during the workshop and are evaluated by standardized patients (SPs) during four OSCE stations. We train bilingual (English and Spanish) lay health promoters and medical students to act as SPs. We evaluate our curriculum by measuring residents' changes in knowledge and attitudes (pre- and post-test), post-workshop feedback, self-reported skills used three months after training and OSCE scores. Funding for this curriculum was awarded from a UT Health Science Education Grant.