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Physical Diagnosis and Care Coordination in Libya: Medical Mission Work Focused on Capacity Building and Education

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Abstract

How do you make the most impact in a single medical mission? by focusing on education and capacity building. International Medical Corps (IMC) deployed an emergency response team to Libya on February 24, 2011 and was one of the first international NGOs to arrive in Benghazi on February 27. Over the next year as the eight month war waged on, efforts expanded to support hospitals throughout the country. What follows is an internist's account of a volunteer mission in Sabha, Libya in January 2012. The mission included delivering systems based practice lectures to senior attendings and the development of a short physical diagnosis course for medical students. The work provides insights about the medical education needs of the Libyan medical community. Approaching medical mission work from an educational capacity building perspective can have long term rewards both for the recipient health system and for the missioner.

Keywords: International/transnational medical education and teaching and learning general.

Article

Introduction

Throughout the Libyan revolution the civilian population suffered tremendously. Three years later, the Libyan people continue to face shortages of food, water, fuel, electricity as well as access to adequate health care. Large numbers of nurses and doctors have left the country and still have not returned. Many health care facilities remain damaged or with shortages of critical staff. With the departure of large numbers of physicians, hundreds of medical students are left with uncertainties about whether their training will be completed. These uncertainties unfortunately fall on top of an already challenging decline in the quality of Libyan Medical education (Brenamer & Bakoush 2009), due in part to a lack of curricular reform and leadership (Daw & Elkhammas 2008) prior to the revolution, evidenced by a failure rate of over 50% in standardized exams (Ali & Bakough 2007). What follows is an American internist's perspective on a medical mission assignment aimed at assessing some of these educational needs. What transpired was an appreciation for the complexities of the challenges faced by Libyan educators as well as an appreciation for a focus on capacity building through education in medical mission work.

Early in the Libyan conflict International Medical Corps (IMC) recognized the need to institute training and capacity building. In field hospitals during the fighting medics were trained on basic and advanced life support. In Misurata IMC deployed a four week Emergency Medic training program and delivered it to more than 50 senior medical students. Students were educated on basic trauma evaluation and management through didactic lectures, skill sessions and clinical teaching. Once trained, emergency medics were deployed back to the front lines to provide on-site care, patient stabilization, and preparation for transport. Medics also staffed ambulances. (http://internationalmedicalcorps.org/Libya)

As the overwhelming majority of hospital care in Libya is delivered by nurses, training programs for nurses were developed by IMC in Benghazi and Misurata. Partnering with the Jordan Aide Society, IMC has hired Jordanian nurses to work alongside Libyan nurses to provide direct patient care and to help standardize the level of nursing care throughout the country.

In the southern region of Sabha the absence of well trained physicians is even more apparent than in the north. Here IMC helped support a 432 bed hospital. Transforming first the notion of an intensive care unit from a complex mixture of different providers to an organized system of care with a team approach to patient care was the primary focus.

My role in Sabha was to develop a number of training programs for physicians. How to know what physicians needed to learn was a challenge to be sure. While trying to function effectively in a North African hospital can be a daunting task given cultural and language barriers, I was immediately struck by the seemingly disjointed nature of the care system. In the ICU doctors typically write orders in English while nursing reports are in Arabic and kept separate from the chart. It appeared at least on the surface that there was little of a team approach to coordinated care. Whether this was due to the efflux of physicians practicing prior to the conflict or to a fundamental difference in practice patterns was not clear. Further complicating the physician-nurse communication issue is the fact that many English speaking nurses have left Libya so many that remain may not be able to read the orders written by physicians. So how to begin? And more importantly, how to be mindful of the necessity to ensure that my mission had some long term sustainable impact?

I saw my training directive as a two part educational assignment – part I to support the attendings by providing a number of core lectures and part II to interact with medical students at the Sabha hospital.

After a few days in the Intensive Care Unit (ICU) I surveyed the type of cases presented and was struck by the large number of hemorrhagic strokes as well as the prevalence of complications of chronic diseases such as diabetes, hypertension and renal failure. It became clear to me that the reason for this was likely two fold- due in large part to the practical absence of preventive care. (Jones 2011) Even to this day many clinics remain closed due either to infrastructure damage or staffing shortages. The second reason for the tremendous numbers of complications of common illnesses in the ICU I suspect had to do with this lack of care coordination. Therefore, lectures to senior doctors focused on a team approach to the management of common ICU diagnoses such as hemorrhagic stroke, diabetic ketoacidosis, and hypertensive emergency. The topics were chosen not by their factual content but instead specifically by being mindful of the fact that the greatest long term benefit to the Sabha hospital would come from introducing an integrated team approach to ICU care.

In addition to focusing on systems based practice issues with the attendings, a sustainable impact was achievable with the medical students by focusing on their physical diagnosis skills. Fortunately our IMC translator was herself a medical student. She told me about the plight of many learners in the Libyan system whose education had been indefinitely suspended by the war. Fatima led me to the Sabha hospital Facebook

page. I now had an effective way to let large numbers of doctors know I was there. I learned from Fatima that in Libya students typically go from high school directly to medical school. While medical school is a five year program, there is very little hands on training or clinical assessment taught until relatively late in the training process. By developing a physical diagnosis course, I was able to reinforce the systems based practice issues discussed in the senior lectures and hoped to model a collaborative hands-on approach to clinical assessment.

Methods

Seventy five medical students and 19 senior doctors attended most of the lectures. Typed copies of the lectures and list of references were given to all and available to doctors at the hospital who were not able to attend the lectures. Sixty three medical students participated in the mini course in clinical assessment. What follows is a brief description of the physical diagnosis course and its assessment. All students were first given first a lecture on clinical assessment and then allowed to practice obtaining a proper history and doing a thorough physical exam (on me). The practice histories were from a series of standardized patients that I pretended to be.

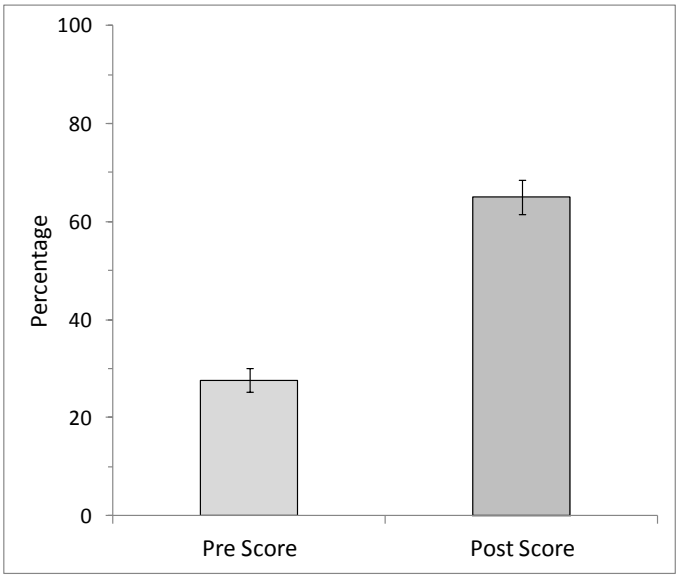
Practice histories were as follows:

1. A 78 year old female with a history of diabetes, hypertension, migraines and gout presents with chest pain due to gastroesophageal reflux.
2. An 18 year old female with a history of depression presents with the acute onset of shortness of breath due to spontaneous pneumothorax.
3. A 70 year old male with a history of diabetes, hypertension, migraines and gout presents with abdominal and shoulder pain due to cholecystitis.
4. A 68 year old female with a history of breast cancer and hypertension presents with acute shortness of breath due to a pulmonary embolism.
5. A 28 year old female with a history of migraines presents with a headache due to meningitis.

Students were divided into five groups with equal distributions of training levels from 3rd and 4th year and assigned the task of obtaining from one hospitalized patient and writing up a thorough and complete history, exam and assessment including a thorough differential diagnosis and treatment plan. The same standardized evaluation tool was used on the practice cases in order to compare pre and post test scores. The rating scale for pre and post test scores for the clinical assessment was as follows. A total possible score was 35 points. For the History of Present Illness, Past Medical History, Past Surgical History, Medications/Allergies and Family and Social History points were assigned as follows 0 if the entire section was missing, 1 if the content of the section was poor, 2 if good and 3 if excellent meaning the section contained all the key elements. For the Physical Exam section a total of 10 points were possible depending on the number of organ systems examined assuming the technique employed was generally accurate. For the assessment and plan section another 10 points were possible as follows: 0 for an absent section. 1 for a very incomplete assessment with missing key problems, 2 for less than 25% of the problems itemized and no plan, 3 for less than 25% of the problems itemized and some sort of plan, 4 for listing 50% of active problems without a plan, 5 for listing 50% of active problems with little plan, 6 for more than 50% of the problems with some sort of plan, 7 for listing most of the problems with some sort of plan, 8 for most of the problems despite missing several important ones, 9 for listing most of the problems missing one or two of them and all associated with a coherent plan and finally 10 to indicate including all the key elements of all problems with a thorough and well thought out plan.

Results

The average score on the pretest assessment was 9.7 or 27.6 %. There was very little variation in pretest scores with a standard deviation of 0.84. Most students improved their history taking skills substantially with an average posttest score of 22.8 or 65%, accounting for an average improvement of 37.4%. There was as with the pretest scores little variation in posttest scores with a standard deviation of 1.27.



Discussion

While little can be made of the actual physical diagnosis scores, this study suggests a potential for significant short term improvement in students' diagnostic skills. While the educational needs of students in Southern Libya may differ from those of the more populated areas in the North, Sabha hospital medical students warmly embraced the hands on and collaborative nature of the course and were genuinely appreciative of Western support during this fragmented time in Libyan student medical education. Individual feedback from students was that this type of teaching was needed in their training. The benefit of identifying physical diagnosis as a curricular focus may indeed have long term favorable repercussions on Libyan medical education. Only time will tell what the future holds for Libya and how it will rebuild its healthcare system. Perhaps out of great adversity comes an opportunity for formidable change in Libyan healthcare. Under Gadaffi's rule very little useful information had been reported to the World Health Organization; so little is known about the epidemiology of disease in Libya. Hopefully this is now changing. Through the work of the World Health Organization in conjunction with several key NGOs and the Libyan Health Ministry much work is underway to map the existing facilities and match them to the healthcare needs of the country. With a focus on the correct educational needs of the healthcare system, there is every reason to be hopeful that a functional system of care can be built. For that system to succeed, however, it will in this internist's opinion need to focus on training the next generation of Libyan physicians to be engaged and skilled diagnosticians. While Western medicine often relies on the luxury of sophisticated testing, the art and greater skill of medicine lies often in a thoughtful and thorough history and examination, skills that need not only be taught but practiced and ideally practiced from an early point in medical training. To acquire more adept diagnostic skills, will

require a shift in the present Libyan training model, a shift a younger generation of Libyan doctors is likely to embrace.

Perhaps more important than any tangible effect on advancing the health care system in Sabha, this mission offered hope to a few hungry medical students who may be inspired to complete their training despite the adversity their country is still enduring. Hopefully the next generation of Libyan doctors thrives and will embrace some of the systems based practice concepts introduced. The impact on this practitioner and the perspective gained and applied to my own practice here in the US is immeasurable. Finally it is critical that medical mission work be done through the lens of the local healthcare system, mindful of embracing the local culture and care system, while offering opportunities to encourage capacity building and education as both can have a long term and sustainable impact.

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