



Editorial

Medical schools in times of war: Integrating conflict medicine in medical education

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ABSTRACT

Amid the rise in conflict and war and their ensuing repercussions, traumatic injuries, psychological distress, and communicable diseases spread widely. Today, health-care providers in the Middle East are faced with new and unfamiliar cases resulting from the use of new and advanced types of weapons. In addition, there has not been enough emphasis on hands-on experiences in medical school, which can be imperative in times of war. Lack of academia is another inadequacy that limits the transmission of knowledge onto the newer generations. Here, we will shed light on the inadequacies in medical curricula in the Middle East when it comes to addressing patients of war. We also call for action to advance medical education in war-ridden areas by incorporating “conflict medicine” as an integral module in medical curricula.

Keywords: Conflict medicine, Medical education, Middle East, War

INTRODUCTION

War is a major contributor to traumatic injuries and psychological distress. The Middle East, being one of the most conflict-ridden regions in the world today, continues to be an unfortunate site for traumatic events. Across the region, outbreaks of infection have occurred as a direct result of recent wars, compounded by food and water shortages, displacement, and damage to infrastructure and health services.^[3,7] In addition, psychological effects, such as posttraumatic stress disorder (PTSD) and anxiety disorders,^[5] are on the rise and will become more apparent in the years to come.

Several initiatives highlighted the importance of improving health care in times of conflict. Nevertheless, not much has been done to integrate “conflict” as part of the core of medical education. Here, we call for action to advance medical education in war-ridden areas by incorporating “conflict medicine” in medical curricula.

CONFLICT-RELATED INJURIES: A RISING CHALLENGE

Conflict-related injuries can be varied and complex; resulting pathologies can be classified into war related and nonwar related. War-related illnesses include victims of blasts and burns, who present acutely, or those with chronic conditions like PTSD. This category also includes those

affected by communicable diseases as a result of conflict and migration. Nonwar-related diseases include patients with noncommunicable diseases who have lost access to adequate health care and those who suffer the deterioration of health systems and facilities.^[3,13] The use of new weapons raises new challenges as well.^[4,8-10,12,14] Health-care providers are faced with new and unfamiliar cases resulting from these types of weapons.^[12] Often, specialized trauma surgeons and/or seasoned general surgeons are the ones who explore these cases. Unfortunately, the number of these experienced surgeons is small. As such, the need to train newer generations of conflict-adept physicians arises.

CONFLICT MEDICINE: DEFINITION AND CURRENT STATUS

Conflict medicine is an area that specializes in delivering health care to conflict and war survivors and providing medical preparation, planning, response, and recovery throughout the conflict's life cycle. Its specialists provide insight, guidance, and expertise on the principles and practice of medicine in the acute settings of the conflict zone. Unlike all other areas of specialization, the conflict medicine specialist only practices the full scope of the specialty in conflict-related emergencies.^[6]

The current medical education systems in the Middle East guarantee that medical graduates, at best, are competent in reaching a diagnosis and planning a treatment. Nevertheless, there has not been enough emphasis on hands-on experiences, which can be imperative in times of war. Basic invasive skills such as suturing and placing intravenous lines are not mastered by the end of medical school. In addition, the over-reliance on advanced diagnostic tools decreases the physician's effectiveness in acute situations and unequipped zones. Furthermore, the rigidity in following set guidelines and the inability to adjust guidelines as per presenting cases present a limitation.

Comprehensive care of patients in conflict requires coordination of medical, social, and public health sectors. Therefore, the development and integration of modules on conflict/disaster medicine in medical education must become a priority for medical schools and health-care centers in the region to better equip the medical personnel in the Middle East with skills and knowledge that can benefit their communities in times of need.

Lack of academia is another inadequacy that limits the transmission of knowledge onto the newer generations. Often, physicians who are mostly exposed to conflict-related injuries work in primary care centers and hospitals that are close to zones of conflict and thus are not academic, meaning they do not work in academic medical centers.^[11,13] Therefore, their knowledge is not transmitted to the next generation

of physicians. In addition, academic physicians that have conducted research on conflict-related medicine are not instructed or expected to share their experiences.

EMBRACING CONFLICT MEDICINE

With the rising conflict-related challenges in the Middle East, embracing conflict medicine seems imminent to ensure the appropriate delivery of health care in acute settings and war zones. Medical schools in the Middle East by adopting or copying curricula present in developed countries lack the ingredients needed to address the new health challenges in such conflict-ridden societies. Although universal medicine ensures the learning of the basic principles of medicine, it does not target the needs of society. In addition, the lack of proper planning and governmental strategies to implement curricular changes and to address health needs exacerbates the problem.^[11,13,15] Still, medical schools are the ones that should be leading the efforts to change the current status quo in coordination with policy-makers. Establishing a unified clear vision for medical education in the region is necessary for an appropriate response to societal needs. As such, integrating conflict medicine into medical education programs is essential. Furthermore, supporting research efforts to study conflict-related injuries and socioeconomic conditions will help in improving future delivery of care. Health professionals and trauma specialists, who are familiar with war injuries, should be supported to build the capacity of local health workers in directly affected countries such as Syria, Yemen, Iraq, and Palestine.

THE CONFLICT MEDICINE MODULE

We propose that conflict medicine be included in the medical curricula of war-ridden countries as a module, which will emphasize the conceptualization of hands-on experiences [Figure 1]. Students would be properly educated on the organizational structure of their country's health system and how it operates in case of conflict. They must also be encouraged to pitch in their ideas on how to address current inadequacies. In addition, getting acquainted with the epidemiology of conflict-related illnesses is vital to comprehend the significance of the module and the issue at hand. Epidemiological studies and efforts to count and stratify casualties should be led and supported by governmental agencies and policy-makers. Moreover, presenting and discussing reports of war cases of different etiologies are necessary to familiarize the students with war-related pathologies and transmit knowledge on how to deal and treat these cases from one generation of physicians to another. Learning basic surgical procedures such as suturing, inserting intravenous lines, and administering first aid to patients with trauma, burns, or injuries due to biochemical weaponry are of high importance. Drills that simulate war



Figure 1: Components of the conflict medicine module.

times in health-care settings and conflicted zones should be run frequently to keep the students attentive and their skills sharp. Furthermore, social and ethical skills that are needed to provide psychological support to susceptible populations must be introduced and emphasized.^[1] Cases of PTSD victims, for example, should be presented and studied, and appropriate therapeutic interventions should be discussed. Moreover, evaluating the knowledge and adaptability of the students in the long run, prospectively, is necessary to ensure that learning objectives are being met.

IMPLEMENTATION AND EXPERIENCES OF MEDICAL SCHOOLS

Implementing changes in medical curricula is not easy. This explains why few medical schools have adopted some form of disaster/conflict medicine training as part of their medical curriculum. In Lebanon, the Lebanese University (LU) Faculty of Medicine signed an agreement with the International Committee of the Red Cross to give a module on the clinical management of the war wounded [Table 1]. The intensive and voluntary module takes course over

weekends and holidays and includes hands-on training as well as testimonials and lectures from experts in the field. Such an arrangement allowed the medical school rotations to continue to flow regularly without any disruptions to the instated medical program. Furthermore, as most of the patients with war injuries present to community hospitals and nonacademic medical centers close to areas of combat, the LU Faculty of Medicine signed affiliation agreements with a number of rural and community hospitals that are receiving first-hand the bulk of war injuries so that medical students can do parts of their rotations there and thus are exposed and familiarized to conflict-related medical cases. Such an arrangement would not alter the schedule of medical clerkship rotations as patients of war are usually admitted into the regular wards of hospitals with health-care professionals and physicians from different departments providing care as adequate. Therefore, rotating medical students would be encountering these patients normally in the hospitals. In Saudi Arabia, the need for implementation of similar programs has also been highlighted.^[2] A course that consists of 2 weeks of classroom activities followed by 8 weeks of e-learning has been proposed to cover the different domains

Table 1: Topics covered by the University Diploma (UD) offered jointly by the LU and the ICRC on the clinical management of war-wounded patients.

Module topic	Duration	Lecturer
1 Opening ceremony, presentation of the UD, and introduction of the faculty and students	1 h	LU-ICRC
2 Pretest	30 min	ICRC
3 Specificities of war trauma	1 h	ICRC
4 The ICRC experience in war trauma	1 h	ICRC
5 IHL: rights and duties of health personnel in times of conflict	1 h	ICRC
6 Wound ballistics	2 h	ICRC
7 First aid, the chain of casualty care, the ABC of trauma, and its application to war trauma	1 h	ICRC
8 Triage and mass casualty planning	1 h	ICRC
9 The epidemiology of war trauma	1 h	ICRC
10 War wounded patients: basic principles of their management: a. Surgical management of war wounds (surgical debridement, wound irrigation) b. Delayed primary closure and skin grafting c. Neglect of mismanaged wounds d. Management of retained bullet and/or metallic fragments e. Wound dressing methods	4 h	ICRC
11 Infection and antibiotics in war trauma	1 h	ICRC-LU
12 Blast injuries	1.5 h	ICRC-LU
13 Mine injuries (ICRC video)	1.5 h	ICRC
14 War wounds with fractures	1 h	ICRC
15 Amputations in war trauma	1 h	ICRC
16 The essential role of physiotherapy and early rehabilitation (ICRC prosthetic technician and physiotherapist team)	1 h	ICRC
17 Psychological issues in war-wounded patients	30 min	LU
18 Anesthesia in war trauma	1 h	LU
19 Pain management	1 h	LU
20 Burn injuries management	1 h	LU
21 Abdominal war trauma	2 h	LU
22 Thoracic war trauma	1 h	LU
23 Brain and spinal penetrating war trauma (including the ICRC experience in Afghanistan and management of spinal patients in resource-poor settings like Thailand)	1.5 h	ICRC
24 Maxillofacial injuries	30 min	LU
25 Vascular injuries in war trauma	30 min	LU
26 Nerve injuries in war trauma	30 min	LU
27 The Red Cross wound classification system	1 h	ICRC
28 Blood transfusion and autotransfusion	30 min	LU
29 Damage control surgery in war trauma	1 h	ICRC
30 Management of dead bodies	1 h	ICRC
31 Setting a field war hospital	1 h	ICRC
32 Setting a mobile surgical team	1 h	ICRC
33 Introduction to nonconventional warfare and its challenges. Basic rules for the management of victims of chemical warfare	1 h	ICRC

ICRC: International Committee of the Red Cross, LU: Lebanese University

of disaster medicine. Simulations, experiential activities, case studies, and role-playing activities are all used to promote higher levels of cognitive engagement.

CONCLUSION

Embracing conflict medicine seems imminent to ensure the appropriate delivery of health care in acute settings and war zones. We believe that investment in health care is crucial to provide cost-effective services to affected populations.

Research is often forgotten in the rush to provide emergency care; nevertheless, publications from conflict settings provide better analyses of care provided to improve future care. Finally, intensifying diplomatic efforts to promote dialogue and avoid conflict and war remains the best method to prevent individual harm and societal damage.

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Conflicts of interest

There are no conflicts of interest.

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