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The fevered flight; a medical history of the American revolution, 1775-1783
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In tracing the trajectory of medical treatment during the American revolutionary war and discussing the specifics of each war front, Howard interrogated the several health challenges that plagued the war camps, describing adequately the treatment and surgical methods adopted by the American and British medical departments during the war and the impact of diseases on the native Americans and the black populace, including the unwavering efforts to curb the spread of smallpox and digging out the strategies adopted to curb Covid-19. This most recent pandemic has posed a great challenge to America and the global health system. Thus, this, coupled with the several unique graphical representations of the battlefield activities, a skillful pattern of chapter introduction with a monograph or line of thought creates in the readers the desire to take their minds on a voyage of feasting on every page of this book.

As the author paints a picture of the state and life of the American citizens on the eve of the American Revolutionary War, it is obvious that the rate of morbidity was disturbing as they were infected with smallpox. This deadly disease had no regard for age, gender, or social status. The state of the Americans on the eve of the war was further confirmed by Martha Washington's statements that 'sickness is to be expected,' and no one was exempted. The medical profession in Britain at this time was divided into three, the elite physicians with university degrees. The surgeon trained through apprenticeship was licensed only to administer first aid in emergency cases. The third was the apothecaries, and their apprenticeship permitted them only to sell and prescribe drugs. However, this British occupational distinction was blurred because the physicians performed the task of surgeons and apothecaries at intervals during the war. On the other hand, American medicine was not static at the onset of the revolution. Improvements were made in education, regulations, and the cross-culturalization of ideas.

The "fever" was viewed in different contexts based on the classification of diseases in the eighteenth century. James Lind defined it as the body's indisposition commonly attended with increased heat. It caused 80 percent of the morbidity rate during the war, comparing the medical fight against it to the present-day war against cancer. Life-threatening diseases, including bloody flux, respiratory infections, typhus, cholera, smallpox, and malaria, tortured the British and American populations. As opined by Donald Monroe, these diseases were said to have been caused by "miasma", an invisible poison that is believed to have exuded from rotten organic materials and the soil. Although the causation of diseases were entrenched in antiquities, there were advances in preventive measures. There were also specific interventions like quarantine and inoculation. Americans sent people infected with smallpox into isolated places, and a Hessian in the British army, Johann Conrad, confirmed the existence of a smallpox Island where infected people were sent to. However, beyond systemic infection, patients were also vulnerable to dehydration, hypovolemic shock, and gangrene.

In the origin and operations of the British medical services from earlier times, physicians and surgeons were attached to the commander-in-chief when he went on campaigns. However, in the 1740s, the general hospital dominated medical services in the field. It should

be noted that 'general hospital' at this time was a description for the staff of the medical department rather than a facility. At the end of each campaign, the general hospitals were always closed. During the French and Indian War of 1754-1763, the commander-in-chief controlled all medical services, including hospital supplies and medical personnel.

However, in the organizational structure of the military medical services of America during the war, a medical committee was created in 1775 to handle the shortage of drugs. Subsequently, its authority was extended to the appointment of personnel, conducting inspections, and resolving internal disputes. This committee was active until May 1781, when its responsibilities were transferred to the Board of War. In 1782, Congress established a supervisory board comprising senior doctors and military officers directly reporting to them. Between 1775 and 1781, several medical improvements were recorded in the Continental British Army. Blanco, the best authority on American medical services, confirmed the equivalent level of development in the American army and that of Great Britain.

Howard identified the significant roles of several enlisted medical workers and surgeons who served beyond their wages during the war. Medical practitioners and surgeons had to multitask with little medical equipment to work with to keep the men alive. Homes, churches, and taverns were turned into hospitals for lack of spaces to keep the victims of war and because they needed to move them from the war front to avoid multiple casualties. The exploration of different personalities of the medical workers and surgeons during the war was exceptional. He pointed out Robert Knox, the inspector of hospitals and physician heading the medical team of the British for the Saratoga campaign, who used an indigenous medical remedy to treat the soldiers in the shortage of medical supplies. The use of the Peruvian bark, an herb that has been historically sought for its medicinal value, which is of several species, yielded quinine and other alkaloids which were effective for the treatments against malaria during the war.

Also, in treating smallpox during the war, the American Indians made notable advances by using cotton and rubber in performing surgery, methods of manipulation in childbirth, and using anesthetics and antiseptics. Scottish doctor John Ferdinand Dalziel Smith further confirmed the nature of their medical practices when he toured America in 1784. He was privy to have witnessed the American Indians of Carolina attempting to ward off smallpox. However, these misguided practices were not unique to American Indian medicine. The 'antiphlogistic' regimens used by the military and civilian doctors of the period commonly included cold-water therapies and the administration of drugs to induce sweating. Although perceived as unsafe remedies, the ability of the American Indians to explore their indigenous medical remedies to save themselves from terrible diseases was exceptional.

During the Philadelphia campaign of 1777, the Meeting House in Birmingham served the purpose of an American hospital. The surgeons displayed great innovative skills; because of their inability to access adequate numbers of medical personnel, wagons, drugs, surgical instruments, and stretch bearers, the surgeons resorted to adopt unconventional methods of treating the wounded soldiers. However, inside the Meeting House, Benjamin Rush and his colleague Dr. Lewis Howell improvised a method of conducting surgery on the wounded soldiers by placing them on wooden benches and an unhinged door as the operating tables. They, however, dug a pit outside for the corpses and amputated limbs.

Before the battle at Monmouth in 1778, remodeling took place in the American army, which was instrumental to the army's performance. Men were conscripted into the army. Changes were made regarding the officers' promotion, wages, and pension. This was to

dissipate despair, discord, and perplexities amongst the soldiers. Washington enlisted the help of the Prussian mercenary soldier Baron von Steuben who was instrumental in the training and discipline of the American officers, and their French allies supported them in their quest. There was also an improvement in the supply of hospital drugs and other essentials; there was also improved documentation of stores and more accurate registration of the sick; these, coupled with the love and care shown to the officers, encouraged them to approach the battle at Monmouth more differently. However, there were changing tides that accompanied the war. The British forces were burdened with great atrocities. At Yorktown, things began to change for the Americans and their French forces as the fate of the British and their German allies began to be sealed. Yorktown was the effective conclusion of the eight-year war. The combined forces of the Americans and French under the leadership of Washington and his assistant Benjamin Lincoln besieged the British army and their German allies; thus, their surrender began in October 1781.

Based on a skillful analysis of the losses of war and juxtaposing it with the discovery of researchers, historians and comparing the reports from the war front, it was discovered that infectious diseases caused the highest morbidity rate during the American revolutionary war. More officers died from malaria, dysentery, and smallpox than from the wounds they sustained. This, however, confirms the position of contemporary observers of the revolutionary war that disease death considerably outnumbers wound deaths. Although Peter McCandless and Paul Kopperman, two historians who did a medical analysis of the campaign, fully acknowledge the destructive effects of disease on Cornwallis's forces, but they were not quick to state it as the central determinant of British failure in the war. Thus, rather than accruing the outcome of the war to the notoriously unhealthy South, which was poisonous to the British troops and greatly weakened the soldiers, the uncoordinated British high command who made repeated poor decisions and underestimated American and French resolve, and the few men and resources available to Cornwallis to succeed sealed the fate of the British army for a defeat.

Howard brilliantly established a parallel line between the medical challenges that plagued the eighteenth and twenty-first centuries. Drawing from Erica Charter's review of British medicine in the Seven Years' War of 1756–1763, she argued that despite administrative changes and lessons from previous wars, no significant medical innovation arose from the European campaigns. If there was any progress recorded, it was in the form of a gradual transformation through the frequent experience of warfare. No obvious fundamental reforms took place, and the British authorities were passive in providing beneficial interventions to encourage strategic innovations. However, the neglect of the British Army's medical services spanned through the mid-nineteenth century and even the French Revolutionary, Napoleonic, and Crimean Wars. He went further to examine the period between the end of the Revolutionary War and the War of 1812 in the history of the medical services of the United States Army. He posited that it was a downward slope regarding development in this area. According to Gillett, there was no proper central organization, and the suggested structure only existed mostly on paper.

Exploring the significant developments among American medical practitioners, some served in the war and the American medical science field. However, in 1765, John Morgan encouraged physicians to 'dive into the bottom of things through experiments. Hence, the Continental Army doctors committed their ideas and research to paper. Beyond the widely read monographs of Benjamin Rush, John Jones, and James Tilton were the case reports of

Ebenezer Beardsley and Barnabas Binney. American doctors played prominent roles in the military and political affairs of America in the Revolution. Many were dedicated patriots; six of the doctors signed the Declaration of Independence, and some others, like Hugh Mercer and Joseph Warren, became brigadiers and major generals, respectively.

However, in the Republic's early years, the 'professional euphoria' of the American medical men was watered down. The army doctors who returned to civilian practice still tackled diseases using the same methods, with their heroic remedies challenged by American citizens; thus, the profession risked losing respect. The American founders would no doubt approve of the transformation in modern medicine with its deep understanding of disease mechanisms and increasingly successful therapies. Hence, despite these profound advances, it should not enshroud the similarities between the medical practices of the Revolution and that of today, particularly with respect to the control of epidemics.

Martin Howard intelligently conjugated the outbreak of smallpox and that of COVID-19, which plagued America and the global world in the early twenty-first century, 250 years after the American revolutionary war. He showed that the two viral diseases are distinct in their symptomatology and mortality; he established a conspicuous similarity in the efforts to control the diseases: the method of inoculation for smallpox and vaccination for Covid-19 and the quarantine system. During the revolutionary war, there were occasions of obligatory and mandatory quarantine to curb the pandemic spread; however, this was the case in America's battle against Covid-19.

Although the Covid-19 procedure is believed to be a far safer procedure than the inoculation for smallpox, Howard showed that the choices that faced the politicians, doctors, and soldiers of the revolution were not much different from what faced societies in warding off the effect of Covid-19 in the 21st century. Hence, the outcome of the war linking it with the great losses recorded because of the epidemic that plagued the army during the campaigns shows that the healthiness of its populace determines the level of productivity in a country.

This interdisciplinary piece by Howard, a Fellow of the Royal Historical Society, can provide scholarly insights to readers who are interested in the human dimensions of conflict, intersecting with issues of health and wellness in the eighteenth and nineteenth centuries.

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