Original Article

Medicine & Medical Practices during the Mahdiyya (1881-1898)

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During the era of the Mahdiyya that succeeded the Turco-Egyptian period, the new order elected not to inherit the already rudimentary public services that existed in the country, regardless whether backward or not. Indeed, the revolution ushered in a new order; with a system of administration and services different from the pre-existing one during the rule of the ‘Turks’. During the ‘First Turkiyya*’, (*the term used by the Sudanese to denote the Turco-Egyptian era), the ruling elite in Cairo attempted, particularly in its last thirty years or so, to provide a health service which was more or less a miniature copy of some of the services running at the time, in Egypt proper; especially for the military. Due to the difficulty of tracing proper records for the health services during the Turco-Egyptian era, the researcher will face a difficult task when attempting to construct a clear picture of the scope and shape of health services during the Mahdiyya. Some piecemeal details could be found amongst few writings. Worth noting, writings covering the era of the Mahdiyya very much lagged behind following the colonial Reconquest of the country by Lord Kitchener in 1898. It is to the credit of Richard Hill and Peter Holt, two eminent scholars of modern Sudan history, in conducting some of the early research and producing some balanced and
objective writings about the reign of the Mahdiyya. Earlier writings about the Mahdiyya, including those by Rudolph von Slatin, Reginald Wingate and Father Joseph Ohrwalder, were largely influenced by the prevailing atmosphere of war propaganda and could be considered as biased on scientific analysis (1, 2, 3). However, on the other hand, one may find difficulty in dismissing some facts and to dispute some of the events quoted in their writings.

The years 1881 to 1885 witnessed the beginnings of the revolt of the Mahdi and his rise to supreme power. Those years were marked by anarchy and turmoil, so it was not a surprise that whatever simple public services existed during the Turco-Egyptian rule suffered and crumbled in the wake of the revolution. On the eve of the Mahdiyya there was a hospital in each province or Mudeiriyya in the country. These were ten ‘Mudeiryyras’ included Khartoum, Dongola, Berber, Kordofan, Takka, Suakin, Sennar, Darfur, Fashoda and the Nile Basin Province of Equatoria. As most, if not all of these hospitals were de facto military hospitals, they suffered greatly in the wake of the ultimate defeat of the Turco-Egyptian regime. Taking the military nature of these hospitals, the revolt would have left far reaching effects and resulted in significant damage inflicted upon them. The details of the fate and destiny of the staff are scarce, and little became known about the fate of the staff of these hospitals. Some rudimentary records that filtered out about those who were in Khartoum following the decisive victory in the early hours of 26th of January 1885 gave more or less a blurred picture. The ‘military’ hospital in Khartoum was possibly after the transfer of the capital to Omdurman. Khartoum became a ghost city as portrayed in the writings of Slatin and Ohrwalder (2, 3). Recent writings of some contemporary scholars have revealed new footage on the days and ways of Omdurman during the Mahdiyya, which has contested the accuracy and impartiality of the earlier writings of Wingate, Slatin and Ohrwalder (4).

During and following the siege and fall of Khartoum and death of Gordon, those who were delivering the medical services in general were either captured or killed. Following his capture, one of the medical officers of Khartoum during the siege, Dr Hassan Effendi Zaki, an Egyptian doctor, was taken by the Mahdi as his private physician. Within few month and in June 1885, the Mahdi succumbed to a brief illness and was succeeded by Khalifa Abdullahi bin Mohamed, widely known as Khalifa Abdullahi el-Taishi after his tribe, a clan of the Baggara of western Sudan. Zaki then became the physician to Khalifa Abdullahi al-Tai’shi. Omdurman developed into a sprawling city, as it was not only the troops that came. It was the sheikhs and notables of different tribes from different parts of the Sudan flocking to show their allegiance. They came, not alone, but with their families and retinue of slaves. The facilities of the town was struggling to satisfy such huge numbers of newcomers. It was barely capable of sustaining its original dwellers. There were no facilities for sanitation and the resources of the arable land were barely enough for its own people. Thus epidemics soon broke out. An early epidemic of smallpox took place shortly following the fall of Khartoum. The Mahdi ordered to look for all physicians in Khartoum and Omdurman and employ everyone who had medical experience in a campaign of vaccination. Dr Zaki was made in charge of this campaign. He later wrote that ‘we were able to vaccinate nearly one 1000 subject every day till everybody was vaccinated. The Khalifa issued an edict for similar vaccination campaigns to take place in other parts of the country’ (5). Thus, it seems very likely that from the old order the only surviving physician was Dr Zaki. Dr Musa Abdellah Hamid in his short account on the history of Omdurman.
Hospital, quoted some writings of Dr Hassan Effendi Zaki (6). Zaki asserted that he was ordered by the Mahdi to move from Khartoum and to settle in Omdurman. He was given a house in ‘Hillat Fangar’*, which used to lie between ‘Hayi Al-Umaraa’ and ‘Khor Abu Anga’, both being suburb in the old Omdurman (*possibly part of the current Mourada & Abbassia suburbs of modern Omdurman). He was also instructed by the Khalifa to establish two clinics one in ‘Alshuhada’ (in the centre of the city) and the other was in Al-Shajaraa (famously known as Suk-al-Shajaraa). These last two were Omdurman suburbs. In the first few months after the Mahdi’s victory, further epidemics continued to ravage Omdurman and the country. One such epidemic swept the city in June 1885 taking many victims, including the Mahdi himself. The exact cause of that lethal epidemic was not clear. According to Dr Zaki, it was cerebrospinal meningitis, but others thought it could well be an epidemic of typhus (7).

From the various writings about the reign of the Mahdiyya, no details were mentioned about the medical services and medical staff practicing in the Sudan. PM Holt in his documentary, ‘The Mahdist State 1881-1898’, made little mention, if any, of how the medical services were organized (8). He may not have found any documents covering the subject, as he has given some accounts of the administrative, judicial and financial services. Few manuscripts gave some rudimentary accounts on the shape and scope of medicine during the Mahdiyya. Kraemer in his recent treatise on Omdurman, has offered some previously missing insights into the scope and structure of the public services and the ‘administrative order’ of the Mahdiyya (4). According to him, following the death of the Mahdi and the ascendancy of Abdullahi al-Tai’shi, the latter set to establish the new Mahdiyya order. He organized his administrative and judicial systems. The highest organ of administration during the Khalifa rule was ‘Bayt al-Mal’ (the Treasury). ‘Bayt al- Ma’l’ had under its spheres what could be considered in modern day the various ministries and government departments, as it effectively controlled both the revenue and expenditure. Its director, ‘Amin- bayt al- Mal’ could be regarded in modern term as the person combining the posts of prime minister and chancellor of the exchequer or finance minister; as the most important executive in the state. Bayt al-Mal during the Khalifa rule, encompassed a soap factory, telegraph employees, ammunition store, a pharmacy and a hospital (4). All employees running those departments were under direct responsibility of ‘Amin Bit al-Mal’. Dr Hassan Zaki was employed at ‘Bayt al-Mal’, and under instructions from the Khalifa, he was effectively the ‘Chief Medical Officer’ of Omdurman and indeed the whole of the Sudan. On the other hand, an important department of ‘Bayt al-Mal’ was ‘Musliheen al-Suk’ (market regulators). These were a force of irregular police who were under direct command of a former Turco-Egyptian official, Mohamed Wahbi wad Hussein Aday. Wahbi was born in Berber to Ja’ali and Ababdi parents, and from 1886 till 1895 was in charge of this important section of the administration during the Mahdiyya. He held several titles including ‘Sheikh al-Suk’ (market director) Amir Alshurta (Police Director) and others (4). He had 25 irregular police under his command, delivered the various tasks and duties assigned to them. An important part of their duties could well be considered the sheer work of public health and sanitation by today’s standards. That included inspection of meat, vegetables and other various commodities (Abu Salim) (9). One could argue that some of their duties also included what we regard today’s as general matters of ‘health and safety’. That included disposal of carcasses of animals,
garbage, and control of street congestion. In the words of Kramer they ‘discouraged forms of antisocial behaviour prohibited by the Mahdi and Khalifa; e. g verbal and physical abuse, public urination and defecation…’ (4). An important aspect of the Mahdiyya’s teachings placed special emphasis on core Islamic values and principles that exhort cleanliness in person, place of residence and place of work. The Khalifa used his weekly Friday prayer sermons to address the people of Omdurman. After his ascendancy to power he made the attendance to Friday prayers compulsory for all Omdurman residents. In these sermons, the Khalifa kept emphasising to his subjects the need to keep their neighbourhoods clean and streets unobstructed (4). Another aspect of law and order during the Mahdiyya was the ban imposed on alcohol and tobacco; both considered (in the Mahdi’s jurisdiction) to be violations of the teachings of the Mahdiyya and Islam. Muslihien al-suk, as a department, was not only confined to Omdurman. They were also employed in various towns and cities of the country including Dongola, Ruفا’a, Wad Medani, Gedaref and Massalamiya (4). An account of medicine and the medical practices during the Mahdiyya was written by Dr Hassan Effendi Zaki with a supplementary report by Rodulph Slatin, and these were published in the Third Wellcome Laboratory in 1908 (10, 11). These primarily painted an image of ‘native medical practices and superstitions’, rather than an account of any true medical services. Further, they had very much given the notion that there were no true medical services (by the standards of that era). One may take it for granted that the article argues against the presence of any true medical practice compared to the preceding era of Turco-Egyptian rule. Such an argument stems from the fact that during the preceding rule of the ‘Turco-Egyptian Government’ there was a hospital in every provincial town (12). According to Dr. Hassan effendi Zaki in an article which was written in Arabic, translated by Dr. Andrew Balfour and published in the Third Wellcome Report in 1908, he stated that there were others associated with him during the siege of Khartoum. No records could be traced about those ‘others’. Possibly they were all killed or fled. Dr Zaki stated that there were others during the Mahdiyya who were dispensers especially some Greek merchants who possessed drugs, some Austrian priests like Father Joseph Ohrwalder (and ?Father Bonomi, the other captive), in addition to some nurses (? the two nuns who were also captives with the Austrian priests, Sisters Elizabetta Venturini and Catterina Chincarini) (3). Dr Zaki asserted that in addition to himself (as the only doctor who possessed the Western medical knowledge), the medical hierarchy in the Mahdiyya composed of the El-Bassir (pl. Bussara), the barber surgeon zand the native midwives (called Daya). He went on in detail to state

‘The Bassir was considered the wise physician, and was entrusted with the compounding of medicines. Very often he possessed considerable knowledge, but he took care to secure his fee before prescribing, and too often his ‘cures’ were a mixture of savage quackery and charlatan tricks. The Hallag, who did not possess any special technical knowledge, was nevertheless regarded as a practical workman and was a familiar figure with his razor, bleeding horn and circumcision clamp. It was the fashion to be bled once every six weeks, so that the barber surgeon was kept busily employed’ (10).

From that article, which to my knowledge was the only document that shed the light on the structure of the medical services during the whole period of the Mahdiyya, you could take by inference there were no other doctor practicing the Western medicine throughout
that period except Dr Zaki himself. Hence, following the collapse of the old order, the medical services was relegated again to lie behind the contemporary medical practice in the last quarter of the nineteenth century. As he stated above, the top of the hierarchy there was the Bassir and the one next to him was the Hallag or barber-surgeon. The native midwife or ‘Daya’ deals with midwifery and she was the one who also perform the female circumcision.

Dr Zaki in that article gave a detailed account of the surgical procedures carried out during the Mahdiyya era. This is important as the period was very rife with wars in various parts of the Sudan as well as against enemies in the eastern front (the Abyssinians), the northern front (the Egyptians and the British), and the south (the remnants of the Turco-Egyptian regime represented by Emin Pasha and his troops in Equatorial region). The surgical procedures were conducted in primitive ways and no surprise that the mortality and morbidity were very high, specially gangrene. When a person became injured by gunfire, sword or spear the wound would be washed by water and ground coffee would then applied to stop bleeding. If no bleeding, native butter (from cows or goat’s milk) would be applied. Dressing would then be applied daily after the wound bandaged and left to dry by air. No medication would be applied as it was possibly none was available. If fractures ensued, this would be stabilised by ‘jareed’ (ribs of compound palms leaves) used as splints. Simple fracture were managed in a similar way and left for forty days to unite. Following healing the part was massaged by ostrich fat (10). According to Dr Zaki, the technique to deal with wounds in the wake of more advanced weapons was modified. He quoted the accounts of one certain Bassir, Mohamed Nur-El-Barudi, who was at Toshki Battle, the one which took place in February 1889 and witnessed the decisive defeat of the Mahdist army led by Abdel-Rahman Wad El-Nejumi. In that battle the wounds were treated with beeswax and sesame oil and covered with cotton linen (damoor). Perforated parts of the body caused by bullets were impregnated by honey (10). Amputations were carried out without anaesthetics and the part to be severed would be passed through a hole in the wall of a room or through the window. The stump was immediately plunged into a boiling oil and hence haemorrhage would be immediately arrested. The wound would then be bandaged and dressing with butter usually done after three days. Patients with fractures were advised to eat plenty of dates which was thought to promote healing (10).

Various medical conditions were treated by native doctors (the Basurra), according to specific recipes. For instance, syphilis, as stated in the paper by Rudolph von Slatin (aided by a local ‘hakim’), was treated with a mixture of various substances and food given in certain regime. That included milk with natron mixed with a type of earth called turaiba (11). Headaches were treated by snuffing goat’s butter, which was then rubbed over the head and some sugar taken with water. If the head was felt to be caused by excessive exposure to sun, or by a flu illness, a special salt brought from the region of Dongola in the north, called ‘al-Kab salt’, was melted in red vinegar and placed on the head after shaving the hair (11). Dysentery was treated by a recipe made of wheat, milk and helba mixed together. Gonorrhoea was managed by submerging into a bath of water mixed with helba (11). The latter is possibly a type of legumes very much commonly used in Sudan to this present day in traditional remedies (13). A mention was also made in that paper of Slatin of the disease called ‘Dabas’, which is a lay term used by Sudanese specially the rive rain tribes in rural and
semirural areas to describe this illness which could well be an allergic reaction as it commonly causes swelling of lips, throat and face. In this paper by Slatin it was mentioned that the illness was treated by snuffing the fat of fox and rubbing the skin with it, or making a paste made from the bark of the Arak tree (Salvadora persica) and apply it to the swollen part (11). On a similar encounter, Dr Zaki in his paper also elaborated on the various remedies used by the native doctors to treat various medical conditions. Colic was usually treated with Hargal (Solemnostemma Argel), which should be used boiled with native bread (kisra), given in a single or repeated doses. Diarrhoea was treated with Karad (fruit of Acacia Albida), or Aradeeb, Tamarind (Tamarindus indicus), given sometimes together. The treatment used for gonorrhoea was mentioned to be of great reputation, made from the roots of the Rabah plant (Trianathema pentandra), which was said to grow in Tuti Island. In a dried form, the plant made into powder then mixed with the locally brewed beer, marrissa. The stuff taken as a drink would cause inflammation of the genitourinary tract. The treatment was said to result in cure of some cases, but in others retention of urine may prove fatal if not adequately relieved (10).

Of note made by the editor, Dr Andrew Balfour of WTRL, was the use of the quill of the turkey feather as a urinary catheter after been seared with fat and carefully passed into the urethra. Other native doctors treat gonorrhoea by natron known in the local Sudanese slang as ‘Atrun’. It acts as a strong purgative and a diuretic. Respiratory diseases like bronchitis and cough were treated by ‘Galiya’, which was a ground terrified millet prepared like coffee. Another substance used was the flowers of Karkade (Hibiscus sabdriffa). These were made into a liquid and sugar added to it and it served to those affected usually as a hot drink. Often, venesection was used to treat those with pneumonia (10). Other contagious conditions like chickenpox, which since been called ‘El-Burgum’, was treated by senna burge and application of mud to the vesicles, and no bath was allowed till one week after the end of the disease. Smallpox was very much dreaded and those affected were taken several miles away and isolated and nursed by someone who had the disease before. Snake and scorpion bites were treated by cutting the site of the bite, or cupping it or burn it and then application of a specific powder called ‘Erg-Aldabeeb’ or Erg-El-Agarb’, for the snake and the scorpion respectively. It is of note that most of these methods used by the native doctors during the Mahdiyya era, was still in vogue several decades later well into the twentieth century (AlSafi) (13).

Both Rudolph Slatin and Dr Hassan Zaki lived and were parts of the two era. It was also unlikely that there was any other remaining doctor from the Turco-Egyptian era who survived the Mahdist revolution except Dr Zaki. Records mentioned none, which so far has been traced by the author. Taking into account that Zaki was a practicing doctor during the whole period of the Mahdiyya, he only shed light on the medical practices of the native doctors and local healers. It was intriguing that both Zaki and Slatin did not give any account on the events that affected the health system following the collapse of the old order. Dr Zaki in his paper covered some specific aspects. In that paper, Zaki elaborated well on what could be a first hand account of the native medical practices and superstitions of the era. The supplementary notes by Rudolph von Slatin, also stemmed from first hand experiences he encountered during the years he spent in the Sudan between 1874 and 1896. Like Zaki, he had good insight into the trepidations of indigenous Sudanese traditional medicine during the last quarter of the nineteenth century. Apparently the native methods of healing and various health
superstitions persisted and were rampant throughout the Anglo-Egyptian rule despite they were not well researched except during the first decade following the Reconquest (Bousfield, Anderson) (14, 15).

The one and a half decades of the Mahdiyya were marred with internal strife and conflicts on several fronts. This reached a climax in 1896 when the country was faced with the menace of the Reconquest campaigns waged by Lord Kitchener and his troops. The accession of Khalifa Abdullahi to supreme power following the short rule of the Mahdi, witnessed the beginning of a militant and autocratic state that focused primarily on military and state expansion. This allowed little opportunity for setting down the foundations of a modern state with sound public services. Furthermore, the Khalifa’s rule was also preoccupied with internal conflicts. He faced the threat of being deposed by the nepotism gathered around the late Mahdi’s family, who were then called ‘the Ashraf’. The Ashraf revolt was not the only internal threat to the rule of the Khalifa. Several tribes mutinied including the Rezaigat, the Kababbish and the Fur Sultans in the west, and the Ja’aliyyien in the north.

Over the span of the thirteen years of the Mahdist State, several epidemics and famines broke out. The most remembered was the brutal famine that menaced the years 1888-1889 (H 1306), known in the public memory as ‘The famine of Sanat Sitta’. Vivid descriptions of the horrific maladies of that famine that stricken most of the Sudan, were narrated mainly in the two books, the, ‘Fire & Sword in the Sudan’, and ‘Ten years of captivity in the Mahdi’s Camp’ (2, 3). Some useful descriptions was also made by Yusuf Michael, a Copt, who was a clerk and confidante to the Khalifa (16). Between 1885 and 1890 several epidemics of cholera broke out primarily through the returning pilgrims from Mecca. As essentially no quarantine methods were employed nor any modern medical means or medical staff were available to deal with such epidemics the outcome was devastating. In 1896 a major cholera epidemic broke out during the Dongola Expedition and took the lives of many men of the invading army led by Lord Kitchener. The epidemic began in Egypt and as per the energetic movement of the troops it travelled very quickly from Aswan to Wadi Halfa appearing in the former on the 29th of June 1896 and on the 30th at the latter reaching Dongola in July after swept through Suarda and the remainder outposts along the Nile (17). The British Army instigated quick measures to curtail the outbreak by moving the troops away from the Nile, implying stringent quarantine and sanitary measures. The death toll from the epidemic surpassed that from combat with a total of 1000 cases of whom 800 died (18). Among the troops the mortality was very high among the Sudanese troops and their families with a total of 406 cases of whom 260 were left dead (17). The Xth Sudanese Battalion bore the brunt of the death toll with 50 soldiers were left dead, representing a 6% of its total manpower (19).

Smallpox was a disease that very much became entrenched in the Sudan; before, during and after the Mahdiyya. Earlier on, the process of ‘pocking the pox’, a means of primitive vaccination, was described by both James Bruce and John Lewis Burckhardt. It is not clear whether this process continued to be practiced in the country during the Mahdiyya as per dearth of records. Several outbreaks of smallpox took place during the era of the Mahdiyya. As early as 1885 a major outbreak of smallpox, witnessed by Dr Hassan Zaki, swept through Omdurman leaving over fifteen thousands dead (10). Ohrwalder, another eye witness of that era stated that; following the fall of Khartoum in January 1885; ‘The enormous multitudes around Khartum (sic) had been engaged during the whole of the
winter season in war, consequently cultivation was neglected, and had it not been for the quantities of the cattle available, a disastrous famine must have occurred. In addition to fever and dysentery, smallpox, which in Sudan is endemic, increased with fearful rapidity. In Omdurman hundreds died, and the principal business of the beit el mal was distributing ‘kafans’” (3).

Another outbreak in the south eastern region of Kordofan, helped Hamdan Abu Anja, one of the most able military leaders to subdue the up rise of the Mak of Tagali Kingdom of the Nuba Mountains in 1886 (20). Another outbreak early in the 1889 rescued the Mahdiyya from the menace of Abu Jummayza revolt that destabilised the rule of the Mahdiyya in western Sudan in 1888-1889. The epidemic took the life of Abu Jummayza himself and helped to defeat he rebel in February 1889 (21).

On the eve of the Reconquest there were only four hospitals in the Sudan, one of them at Omdurman. The location of other three hospitals awaits further research. It is possible that this hospital was located at the site of the current Omdurman Hospital which was built in the 1920’s (6, 22). The author, so far, could not trace details about the other three hospitals or their exact locations. The hospital at Omdurman was run by Dr Hassan Effendi Zaki. The hospital at Khartoum which was built around 1826 during the Turco-Egyptian era, was deserted following the fall of Khartoum and death of Gordon in 1885 (23). However, its building was still existing at the time of flight of Rudolph Slatin, who depicted a detailed map to be used by the intelligence section of the Egyptian Army directed by Colonel FR Wingate. That map showed the location of that hospital. Following the Reconquest, Dr Hassan Zaki was re-instated in the Egyptian army, given a military rank and appointed as medical superintendent of Omdurman with the mandate of treating the wounded Mahdist soldiers (24).

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