

Disease and Illness Prevalent During the Anglo Zulu War of 1879 - Part 1

An initial overview of physical conditions and general medical problems

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In the late 1870s, during an age of pox and plagues, humanity remained largely powerless to prevent disease until conclusive proof of the germ theory was developed by Louis Pasteur in France and Robert Koch in Germany. Their bacteriological findings eventually led to the first steps in the conquest of infectious diseases. At home, environmental sanitation, safe water supplies, improved sewage disposal systems, pasteurisation of milk, and sanitary control of food supplies gradually resulted in the virtual disappearance of cholera and typhoid fever and the marked reduction in diarrhoea and infant mortality. The subsequent discovery of effective vaccines, based on the growth of the science of microbiology, initiated not only the eventual world-wide eradication of smallpox but also caused the marked decline in such common diseases as diphtheria, tetanus, whooping cough, poliomyelitis, and measles. In 1879, malnutrition, tuberculosis, influenza, whooping cough, scarlet fever, measles, syphilis and a host of less significant infectious diseases were among the major health problems, not only for the British army but for their families at home.

According to the *Lancet*, UK civilian mortality rates in 1879 were high with 2.6 % of the population dying each month, London typically suffered 189 deaths from smallpox in January alone. The infant mortality rate was 15.3% (under 12 months old) compared with 0.6 % today. Life expectancy for the working classes in Rutland and Manchester (where detailed figures were maintained) were a mere 38 years and 26 years respectively, and for the professional classes it was 42 and 52 years respectively. With surgery in its infancy, the surgical death rate was nearly 50% of all recorded surgical cases.

Since the beginning of time, malaria has killed more of the earth's population than starvation, warfare and plague put together. At the time of the Zulu War, malaria was virtually extinct in the United Kingdom but nevertheless remained a serious health hazard for the British army in Africa. Referring to the Anglo Zulu War, the *History of the Army Medical Department* reveals that bowel diseases and malaria were the most serious medical problems facing medical officers. Between 4th January and the 3rd October 1879 there were 9,510 medical admissions from a military strength of 12,615. Of these admissions, 2,789 or 29.3 per cent were due to 'fever' while 1,522 or 16 per cent were due to enteric fever, dysentery and diarrhoea; and there were 574 admissions from rheumatism. Any precise diagnosis under active service conditions was difficult and, according to the HAMD,

there was much confusion over the separation of fevers due to different causes, this was overcome by an all embracing diagnosis of "typho-malarial" fever.

Maj. Ronald Ross of the RAMC spent most of his working life trying to solve the 'great problem' of how malaria affected soldiers. He knew that soldiers throughout the British Empire were dying in unacceptable numbers from fever and, being astute, he also knew that whoever solved the problem would reap the rewards. He sought to resolve the problem in Europe, through Africa to India but finally found the solution by looking through a microscope, eventually receiving the Nobel Prize in 1920.

Malaria is caused by a parasite, known as Plasmodium, because it lives, swims, and reproduces in the blood. In Victorian times, many soldiers suffered and died of the disease without knowing they were carrying the malarial parasite. In the right conditions, the disease evoked various sinister side-effects which caused fever, ruptured spleen, anaemia, an impaired immune system which, in turn, encouraged other prevalent deadly diseases, also endemic, such as typhoid, influenza, dysentery and malnutrition. In 1879, malaria was a scourge to British soldiers serving abroad as well as indirectly to their families at home from the consequences of disease.

Civilisation and syphilization have gone hand in hand for five centuries, the disease having been imported into Spain by Columbus's sailors following their discovery of Haiti and the questionable sexual delights offered them by the island's generous women. The returning sailors carried the newly acquired syphilitic bacteria *Treponema pallidum* and, as heroes, were feted and bedded by a grateful nation. The bacteria immediately began boring into the bones and skulls of the population and syphilis rapidly spread across Europe to Britain. It had no regard for rank or title, royal houses spread it among their courtesans and the aristocracy while the military rapidly spread it both at home and abroad. Soldiers were indeed, syphilis's best friend. A soldier far from home, particularly one facing possible death from an assegai or typhus, rarely bothered about sexual convention and accepted syphilis as the 'merry disease'. There was an almost total acceptance of the effects of the disease with its raging headaches, swollen joints, wartlike lesions and mouthfuls of sores and ulcers. The disease then entered a latent stage in which no outward signs or symptoms occurred, but inflammatory changes took place in the internal organs. The latent stage could last 20 to 30 years. In 75 per cent of the cases, no further

symptoms appeared. When the final stage of tertiary syphilis did occur, it produced hard nodules in the tissues under the skin, the mucous membranes, and the internal organs. The brain and skeletal structure were frequently affected, as well as the liver, kidney, and other visceral organs. Infection of the heart and major blood vessels accounted for most deaths.

During the period of the Zulu War, venereal disease turned out to be as large a threat as the enemy, directly or indirectly causing more soldiers to seek medical assistance than any other ailment, although most of the severe cases were recorded as 'fevers'. For the troops, there was little or no official sex education and curiously, even the word '*syphilis*' was banned from British newspapers until 1920. In June 1879, of the 300 cases being treated at the Durban military hospital, most patients suffered from malaria, dysentery or venereal disease. September 1879's *The Lancet* records that the latter had been

landed from the troopships, the disease having been contracted previously to the men leaving England.

At the time of the campaign, the most ruthless killer of mankind, one in six of all deaths, was tuberculosis, more commonly referred to as '*consumption*', with about 60% of the population suffering its long-term effects. Tuberculosis, or *mycobacteriosis*, is as old as mankind and even today afflicts third world countries. The germ thrives when hosts, both humans and cattle, live in squalid and overcrowded conditions and is spread by coughing and spitting, drinking contaminated milk and from contact with polluted water, grass, animal feed and soil. During the Anglo Zulu War, many soldiers joined the army to escape the squalor and poverty at home, only to contract and then spread the disease wherever they lived in cramped and filthy conditions, and these were abundant during the campaign. It is unlikely that army medical officers knew they were treating TB or even understood its cause. All too frequently during the campaign, soldiers were kept cramped together in extremely unhygienic conditions.

Following the battle at Rorke's Drift, some six hundred soldiers slept for weeks in overcrowded conditions and squalor, others lived in equally unsanitary conditions during the siege at Eshowe and at Fort Pearson similar cramped conditions resulted in mass sickness which was invariably attributed to the location and not the circumstances. Early stages of TB often produced no symptoms and soldiers could carry the disease for several years before they deteriorated. Symptoms common in the advanced stages of the disease included fever, fatigue, night sweats, loss of appetite, loss of weight, respiratory disturbances such as coughing, chest pains, and production of bloodstained sputum.

One particular form of TB, *Scrofula*, was endemic both in the civil and military populations and was caused by sufferers spitting contaminated phlegm. In the UK, scrofula was common amongst children who frequently went barefoot and who contracted the disease through the skin of their feet. This condition eventually gave rise to the familiar 'no spitting' notices which many readers may still remember. The only treatments at the time included surgical blood letting, applications of phosphoric acid, ether inhalation and digitalis drinks. Most physicians viewed the disease with professional nihilism until Robert Koch discovered the bacillus in 1882.

Influenza was generally known at the time as 'a jolly rant', 'the new delight', a 'gentle correction' or the 'blue plague'. Because it didn't disfigure the features, rot the genitals or cripple limbs it was not generally considered to be a serious condition especially as influenza rarely killed its victims except in the case of children or the elderly, neither of which warranted social concern at the time. Doctors were not unduly perturbed as the condition created the *status quo* of medical perfection, of everybody ill and no one dying. Doctors did, though, notice that a lung from a healthy body would float in water while that of a 'flu victim would promptly sink, otherwise little medical intervention took place or was considered necessary.(2) The several symptoms of a simple attack would have included a dry cough, sore throat, nasal obstruction and discharge, and burning of the eyes; more complex cases were characterised by chills, sudden onset of fevers, headaches, aching of muscles and joints, and occasional gastrointestinal symptoms.

On campaign in Africa in 1879, the risk of death increased as the disease was invariably accompanied by viral or bacterial pneumonia which was encouraged by cramped conditions or an absence of weatherproof accommodation.

Health hazards, illness and disease to which the British soldier was especially exposed in Natal and Zululand.

A concise overview of health hazards in Zululand can be found in the Appendix to the Army Medical Department's *Report on the climate and Diseases of Natal and Zululand*. (3)

Dysentery is not very common, but the occurrence of bloody urine is very frequent in both man and animals, and tapeworm exists to such an extent that Dr. Jones says, "almost every second person you meet with has worms of some sort." The water in this locality is slightly brackish, but not apparently productive of any injury to health. On the whole, Dr. Jones regards the Lower Tugela division as being "remarkably healthy."

With respect to the climate and diseases of the Upper Tugela between Umsinga and the river, Dr. Dalzell, district surgeon, looks on fever as comparatively rare, never having seen any serious cases except those brought out from North Zululand: -

The high lands here are remarkably healthy. It is likely that white men living in the deep valleys would take fever, but no white men live there." Dysentery and rheumatism appear to be more common in this locality, where also tapeworm exists "in abundance."

Cases of sunstroke have occurred, and Dr. Dalzell speaks of the heat in the valleys during the summer months as "terrible" between the hours of 11 and 3p.m, also the Tugela (18 or 20 miles only from this) runs in a deep valley. "Troops could not easily be kept healthy there, owing to the intense heat, while horses would almost inevitably die in great numbers unless stabled."

The water in the district is generally brackish. Such then is the brief outline of the peculiarities of climate and prevalence of disease in Pietermaritzburg and the northern and north-eastern districts of Natal.

The sanitary precautions against these conditions that suggest themselves as being most important are: -
That troops should never, unless compelled by some strategic necessity, be encamped in a valley, but should occupy as high a ground as practicable, and that tents should be pitched for the men to sleep in whenever possible. That hot coffee or cocoa should never be omitted when men turn out at or before daybreak, and that men on guard should always be provided with this ration, to be used as soon after 4 a.m. as it is possible to light a fire.

For the prevention of dysentery it is most desirable that the wearing of cholera belts by the men should be stringently enforced. With a view to the avoidance of tapeworm, strict orders should be given that the internal organs of animals, such as liver, kidneys, brain, etc., are not to be eaten, and that all meat is to be thoroughly cooked. The preparation of tea and coffee, to be carried in the men's water bottles, should be encouraged as much as possible, so as to ensure the water being thus boiled before use.

In consequence of the water being brackish, and as it also, owing to its contamination with the droppings of animals, constitutes one of the means by which the tapeworm ovum finds its way into the stomach, it would be advisable that every means should be utilised for collecting the pure rain water as it falls, and using it for drinking purposes only. Very little ingenuity would be required to extemporise a rude funnel by which large quantities could be gathered and conducted to a receptacle for the use of each company. The men should be warned against eating the wild fruits that may be met with. The minor diseases of Zululand correspond with those of Natal and need only the same precautions.

A report just received from Rev. R. Robertson, of the Church of England Mission, confirms the foregoing in every particular. After an experience of 18 years' residence he says, "I look upon Zululand as a most healthy country; "many white men have died there it is true, but in many cases it was their own fault, in my opinion. Intestinal worms are very prevalent indeed."

Pietermaritzburg, 28th September, 1878

Common day to day illnesses and adverse conditions which constantly threatened the soldier included; severe sunburn, effectively treated by applying juice from the readily available *Aloe* plant. Diarrhoea, no treatment available; rheumatism, no treatment until the sufferer was crippled; regular bouts of dehydration and heat exhaustion; and blisters, the official treatment was, -

threads of worsted to be drawn through the blister and the sock or garment, if available, to be well soaped over the injured part. (4)

The more serious medical cases which involved hospitalisation included scarlet fever, measles, diphtheria, typhus, pneumonia, dysentery, polio and syphilis. The hospital at Gingindlovu recorded that in April they treated, out of 76 officers; fever 1; sunstroke 1; diarrhoea 4; dysentery 4, other diseases 4. Out of 2,000 other ranks, fevers 180; rheumatism 29; diarrhoea 40; dysentery 29; bronchitis 2; boils 11; other diseases and accidental wounds 44. 'Other diseases' included venereal cases. The records reveal the medical treatment for snakebite was copious alcohol (to be drunk). (5) History records that the senior medical officer during the campaign, Surgeon General Woolfryes, blamed the atmosphere for the fevers and dysentery while the soldiers knew little or nothing about protecting their food and water from the bacteria-carrying flies. Personal hygiene was still in its infancy, Col. Clarke wrote,

Latrines and urine pits were dug near the tents, and filled in every morning. The natives would not use them. (6).

Maj. MacGregor also lamented the natives' unfamiliarity with latrines and added,

A principal difficulty was the constant death of oxen, often near water, which had to be dragged away and buried. (7)

A correspondent from the *Cape Argus* visiting Fort Tenedos on the Tugela River observed that it took three officers at a formally convened meeting to agree to replace a soldier's worn out boots while '*everyone ignored a dead ox lying in the stream immediately above the bathing place and water collection point*'. (8) The sole attempt to purify the visibly contaminated drinking water was by the issue of charcoal filters to the troops but, although they were used, they had no effect against bacteria.

As Maj. General R E Barnsley of the RAMC noted when referring to the period,

Our great commanders had never learned that disease has always been far more destructive than the most devastating engines of war which the mind of man has conceived. None realised that the preservation of the health of the troops was the final responsibility not of medical officers but of commanding officers. (9)

Lord Wolseley, undoubtedly the greatest soldier of his day wrote about the field medical officer as follows, So long as this fad continues, my recommended action is to leave him at the base where he may find some useful occupation as a member of the Sanitary Board.(10)

Editor's note.

We have not found any formal references with regard to the medical treatment or implications of disciplinary floggings which frequently took place during the campaign.

References.

1. Even in World War Two, malaria accounted for over half a million US military casualties. Malaria has always been an accompaniment of war and poverty and it continues to control population growth in Third World countries. It remains to be eradicated.
2. Patterson, David *Pandemic Influenza 1700-1900*, 1983
3. *Army Medical Report* Surgeon Major N Alcock 1878
4. *Precis of Information concerning Zululand* War Office 1879
5. *Army Medical Report* Item 16 1879
6. *Precis of Information concerning Zululand* War Office 1879
7. *Ibid.*
8. *British Medical Journal* July 1879
9. *Mars and Aesculapius* Maj. Gen. Barnsley Sapphire Press 1963
10. *The Soldier's Pocket Book* Lord Wolseley 1886

To be continued...

Part 2. The June 1998 Journal will include an examination of Service wounds and treatments, including'

- i. Battle injuries, their effects and treatment.
- ii. Notable surgical cases.
- iii. Medicine and surgical techniques of the campaign.
- iv. A review of field medical statistics.