How Effective was Medieval Medicine?

Haywards Heath & District Probus Club

Introduction

How effective was medieval medicine to combat the diseases of the time? Dr Elma Brenner (the Wellcome Collection's medieval specialist) wrote about this on History Extra, the official website for BBC History Magazine (HERE). She asks whether medieval scholars could grasp the causes of these epidemics and explores the medical treatments available to counter them.

There were many sicknesses around that needed attention and eradication. Some are covered in Dr Brenner's article: *The Black Death.* The worst plague outbreak of them all (in Europe 1347–51) was blamed on an inauspicious planetary alignment of the day. It was terrifying and killed up to 60% of the population. Doctors were powerless to treat it. This illness appeared in two main forms:

- Pneumonic plague, which affected the lungs and made the sufferer cough up blood; and
- Bubonic plague, which caused swellings (buboes) on the body, especially in the groin and armpits.

Modern-day scientists have identified the cause as the bacterium Yersinia pestis, carried by wild rodents. The bubonic form was transmitted to humans via fleas, but the pneumonic form, the most lethal strain, was transferred from person to person through the air.

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The French physician and surgeon Guy de Chauliac witnessed the plague epidemic in Avignon in 1348, where it had spread rapidly from Italy. After falling into a gravely dangerous fever, De Chauliac was one of the few to recover from bubonic plague. He identified the primary cause as a conjunction of planets in the sign of Aquarius in 1345, thus corrupting the air.

Diseases of the time

Some of the diseases in medieval England and Europe were:

The Pox:
Although the pox only affected Europeans in the 1490s, it immediately caused great anxiety and fear. This sexually transmitted disease, roughly equivalent to modern-day syphilis, caused pain and unsightly swellings and could attack the nose and the face. Contemporaries linked it to prostitutes and immoral behaviour.

Leprosy:
After the plague, leprosy is the disease most synonymous with the Middle Ages. It was undoubtedly a major issue for contemporaries, judging by its prominence in medieval literature, art, documents and saints' lives. Comparatively few people developed leprosy since it isn't heavily contagious, but those who did get it suffered skin sores, facial disfigurement and even blindness in some cases.

Dysentery:
In late medieval England, outbreaks of an epidemic illness known as 'the bloody flux' or 'dysentery' were reported. This intestinal infection, causing blood-filled diarrhoea, manifested mainly in crowded, dirty conditions. Though thoroughly unpleasant and deadly, it was much less frequent than plague epidemics.

Bubonic plague:
The most intensely feared killer in medieval Europe was pestilential illness. The Black Death of 1347–51 was unprecedented and decimated more than half of the population in some areas. Following another epidemic in the 1360s, there were recurrent plague outbreaks in England, France, Italy and elsewhere well into the 17th century.

The Sweating Sickness:
This disease was almost exclusively confined to England. I wrote about the sweating sickness in the June 2021 edition of Nil *Desperandum* (page 16), HERE.

Medical treatment in the Middle Ages was quite painful due to the lack of anaesthetic and proper medical knowledge of the surgeon. The Middle Ages was not a very pleasant time to be a medical patient. Monks with little to no experience, aside from castrating animals and having access to a few medical books, performed surgery on human beings. The medicine was basic, and the terrible illness that plagued those times was complex. Ultimately, this led to the creation of some very excruciating medical treatments.

Seeing a Doctor

Most people in Medieval times never saw a doctor. They were treated by the local 'wise-woman' who was skilled in using herbs, or by the priest, or the barber, who pulled out teeth, set broken bones and performed other operations. The 'cures' available were a mixture of superstition (magic stones and charms were very popular), religion (for example, driving out evil spirits from people who were mentally ill) and herbal remedies (some of which are still used today). Monks and nuns also ran hospitals in their monasteries, which took in the sick and dying.

With many wars going on at the time, doctors and barber-surgeons had plenty of practice in treating wounds and broken bones. They could set broken bones in plaster and seal wounds using egg whites or old wine to stop them from getting infected. They knew how to use alcohol or plants like *mandragora* to send people to sleep or dull the pain of operations, if that's what you might call it. They could even remove diseased parts of the body, for example, the gallbladder, and deliver babies by Caesarean section.

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In the middle ages, dentists were called *dentatores*, who had also learnt a great deal from Arab specialists. They had files, forceps, and many other tools and could remove decay, fill holes, strengthen loose teeth with metal wires, or even fit false teeth made of ox-bone. Holes were thought to be caused by tiny worms in the teeth. But only the rich could afford the services of the *dentatores*.

Anyone else with a loose or aching tooth went had it extracted at a booth in the fair or market or by the barber. Since many illnesses were potentially deadly, the best approach was prevention: staying healthy through a balanced lifestyle. When sickness did occur, attention to food and drink, exercise and other kinds of activity, as well as one's emotions, could bring about recovery.

Whilst today there are antibiotics to treat infections, no such treatments existed in the Middle Ages. People were aware that wounds, childbirth and surgery were all dangerous moments because of the risks of infection. Medieval people knew what infections were but could not do little to treat people struck down by them. In medieval times, knowledge about the causes of disease was limited, so there was little chance of preventing it.

There were very few doctors about - most were educated men from the higher ranks of society who learned through practice rather than by attending a medical school. But they had strange ideas: for example, some doctors told patients not to bathe, as this would open the pores and allow the disease in. Other doctors thought domestic animals spread the plague and other diseases.

In the 1350s, it was not a good time to be ill. Medieval doctors did not have a clue what caused disease. The average life expectancy was perhaps 30-35, that's if you were lucky enough to survive early childhood - infant mortality was extremely high, with 20% of children dying before their first birthday, and many women died in childbirth.

The three branches of medicine: Physicians, Apothecaries and Surgeons

From the middle of the 16th century, all three branches of medicine had legally defined rights and duties:

- Physicians advised and prescribed medications;
- Apothecaries compounded and dispensed those remedies;
- Surgeons performed all physical interventions from bloodletting to amputation.

This system was a legislative attempt to create a hierarchy of legitimate practice based on supposed skill and knowledge levels[1]. These rights and duties originated with Henry VIII, who amongst other things allowed the establishment of what would later become the Royal College of Physicians in London in 1518, and in 1540 approved the merger of the Company of Barbers and the Guild of Surgeons, and gave the Physicians the right to inspect apothecary shops for the quality of their medicines, as well as the ability to prosecute those who practised physic and therefore impinged on their monopoly[2].
Source: Midlands Historical Review (HERE).

[1] I. Loudon, *Medical Care and the General Practitioner 1750-1850* (Oxford, 1986), pp. 19-21.
[2] G. Sonnedecker, *Kremers and Urdang's History of Pharmacy* (Philadelphia, 1963), p. 93.

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Some of the oldest medical practices that doctors are still using today

Source: HealthcareGlobal, HERE.

Some of the medieval medical practices are still in use today. Here are some that may surprise you:

- ***Leech Therapy:*** The first use of leeches in medicine dates back to 800 B.C., according to the *British Medical Journal*, when they were used in bloodletting (a practice believed to cure fevers, headaches and serious illnesses). Today, leeches are used to stimulate blood circulation after skin grafts and reconstructive surgery. The leech's saliva contains enzymes and compounds that act as an anticoagulation agent. Leeching might sound primitive but the US FDA approved leeches as "medical devices" in 2004 to drain pooled blood after surgery.
- ***Maggot Therapy:*** Since ancient times, physicians have used maggots to help clean injuries and prevent infection. Because maggots feed solely on dead flesh, doctors do not need to worry about them feasting on healthy tissue. One study in the *Archives of Dermatology*[3] showed that maggots placed on surgical incisions helped to clear more dead tissue from the sites than surgical debridement, the current standard of care in which doctors use a scalpel or scissors.
- ***Transsphenoidal Surgery:*** Transsphenoidal surgery is a minimally-invasive procedure in which instruments are inserted through the nose and sphenoid sinus (a hollow space in a bone in the nose) to remove tumours that are in or near the pituitary gland. The pituitary gland is a pea-sized organ that lies at the base of the brain above the back of the nose. Credit for this procedure is due to the ancient Egyptians, who first discovered that the most accessible point to the brain was through the nose.
- ***Faecal Transplant:*** The incidence of Clostridium difficile infection (CDI) has risen sharply over the last two decades. It's a bacteria that causes an infection of the large intestine (colon). Symptoms can range from diarrhoea to life-threatening damage to the colon. Human stool transplants have been found to consistently cure up to 90 per cent of patients who have had multiple episodes of C. difficile. Today, faecal transplants are done either by colonoscopy or by a tube that runs through the nose into the stomach, but a new study published in *JAMA*[4] shows that there may be a less unsavoury, but equally effective, route - by way of an oral capsule.

Picture Credit/Attribution: this is a faithful photographic reproduction of a two-dimensional, public domain work of art. The work is in the public domain in its country of origin and other countries and areas where the copyright term is the author's life plus 100 years or fewer. Detail from The ***Extraction of the Stone of Madness***, a painting by Hieronymus Bosch depicting trepanation (c.1488–1516).
File URL: https://commons.wikimedia.org/wiki/File:Hieronymus_Bosch_053_detail.jpg

- ***Cesarean Section:*** You might not even consider this an ancient practice since it is so commonplace today, but a Cesarean section (more commonly known as a C-section) is one of the oldest medical practices, dating back to 320 B.C. The mortality rate for the procedure was once very high, until the 1880s when a technique was developed to minimise bleeding.
- ***Trepanation:*** Nearly a thousand years after the fall of Rome, medicine in Europe had regressed and returned to a more primitive outlook, with the only treatment on offer continued to be a mixture of herbal remedies, bleeding, purging, and supernatural ideas. Despite the primitive approach, many medieval treatments were successful, especially herbal remedies. There were other types of cures used in the Middle Ages that many people wouldn't consider today, especially one called *trepanning*, the oldest surgical procedure known to humanity. Patients needed it *'like a hole in the head'*, if you'll forgive the pun – having a hole cut in their head to let fevers escape from their body.

[3] Opletalová K et al (2012) Maggot therapy for wound debridement: a randomised multicenter trial. Archives of Dermatology; 148: 4, 432-438.
[4] See: https://jamanetwork.com/journals/jama/fullarticle/2664458

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One procedure not in use today is:

- ***Needling:*** In the Middle Ages, surgeons used a painful process called "Needling" to perform cataract surgery. It involved a thick flat needle, which a doctor would push directly into the edge of a person's cornea, with no anaesthetics, except for (if the patient was lucky) a cup of bitter red wine. The idea behind this technique was to push the opaque lens back into the lowest part of the eye, which would result in a clear pupil, but typically, the patient was left with an unfocused eye.

Conclusion

Source: British Library, HERE, article by Alixe Bovey, 30 April 2015.

Most medieval ideas about medicine were based on ancient works, namely the works of Greek physicians Galen (129–216 CE) and Hippocrates (460–370 BCE). Their ideas set out a theory of the human body relating to the four elements (earth, air, fire and water) and four bodily humours (blood, phlegm, yellow bile and black bile). It was believed that health could be maintained or restored by balancing the humours and by regulating air, diet, exercise, sleep, evacuation and emotion. Doctors also often advised risky invasive procedures like bloodletting. Medical knowledge derived from antique theory was confined mainly to the monasteries and highly educated. For ordinary people, especially those outside towns, it would have been difficult to access professional practitioners. Those in need of medical assistance might instead turn to local people who had medical knowledge derived from folk traditions and practical experience.

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Excerpted from the following sources:

- https://www.historyextra.com/period/medieval/medieval-medicine-cure-blackdeath-what-caused-plague-epidemic-leprosy-sweating-sickness/
- https://www.historyextra.com/period/medieval/black-death-plague-epidemic-facts-what-caused-rats-fleas-how-many-died/
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