

KQ2: How effective were attempts to prevent illness and disease over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.500s-1700s

Medieval attempts to limit the spread of the Black Death -

- Travellers were quarantined, infected families were boarded up in their homes.
- Believed scented flowers or buckets of dung helped avoid bad air (miasma).
- Some took potions believing they would kill off the plague.
- Doctors wore hoods, with a beak stuffed with herbs or sponges soaked in vinegar.
- Flagellants whipped themselves so that God would not punish them further.
- Others disinfected their house with herbs and burned the clothes of victims.

Alchemists tried to use alchemy to make metals turn into gold, and an 'elixir of life' to make a person immortal or forever youthful. In their experiments they laid the foundation for the development of chemistry as a scientific discipline.

Physicians trained at a university medical school in Italy or Paris and used a urine chart and 'zodiac man' charts. Very few knew much about preventing disease, because they did not know about the causes of disease.

Most people depended on the local '**wise woman**' or **soothsayer** who had built up knowledge of sickness and disease over several generations and each would have their own favourite methods. They would collect plants and herbs, special stones, anything that might help, and carry this about with them in a willow basket. They would make special charms to protect against evil. Mother Shipton became a famous 15th century soothsayer.

Key Words

Quarantine - Isolation of a person who may be carrying an infectious disease.

Miasma - The 'bad air' they believed carried disease.

Flagellant - A person who whips himself as part of a religious penance.

Alchemy - A type of chemistry in the medieval era that aimed to find a way to change ordinary metals into gold and a medicine to cure any disease.

Mysticism - The belief that there is a hidden meaning to life.

Elixir - A liquid with magical power that would prolong life indefinitely.

INDUSTRIAL PERIOD : c.1800s

18th century science involved detailed observation, helped by the microscope after 1590. Doctors learned from dissections and used microscopes. Medical books of the ancient writers were proved wrong or new discoveries.

Smallpox and inoculation - Smallpox had a high death rate and no cure. Inoculation involved spreading matter from a smallpox scab onto an open cut on a healthy person's skin, giving them a mild dose of the disease. Inoculation became popular but it was not completely safe.

Smallpox and vaccination - Dr Edward Jenner experimented to find out why milkmaids suffered from cowpox but never smallpox. In 1796 he injected James Phipps with the pus from the sores of a milkmaid with cowpox. Phipps developed cowpox but did not develop smallpox. Jenner had found a way of making people immune from a deadly infectious disease. He called this method vaccination (after the Latin word *vacca* - cow). His book on vaccination was published in 1798.

Many doctors objected to vaccination as they made a lot of money from inoculation. In 1852 smallpox vaccination was made compulsory for all children. Many parents objected. People still believed miasma caused smallpox - Pasteur did not come up with his vaccination theory until 1880 [see KQ4]

The discovery of antibodies and developments in the field of bacteriology - Robert Koch began to identify the bacteria that caused specific diseases starting with TB in 1882. This new science was called bacteriology. Koch and his team went on to find the germs for cholera, typhoid, diphtheria, pneumonia, tetanus and plague which enabled vaccinations to be created to prevent these killer diseases.

Koch realised antibodies could destroy bacteria and build immunity against the disease. Each antibody only worked one bacteria. If you could introduce a weakened form of the disease into the body when the deadly version of the disease attacked, the body would be able to resist. Koch won a Nobel Prize in 1905.

Key Words

Vaccination - Injecting a harmless form of a disease into a person to prevent them from getting that disease.

Bacteriology - The study of bacteria and how to deal with them.

Antibody - A natural defence mechanism of the body against germs.

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MODERN PERIOD : c.1900s-present day

In the 20th century, endemic diseases and childhood killers such as diphtheria (1940), polio (from 1955), whooping cough (1956) and measles (from 1963), have almost been eliminated through vaccination programmes.

The World Health Organization (WHO) says vaccines are available for 25 different preventable infections and has campaigns of immunisation operating across the globe. In 1979, WHO declared smallpox extinct.

By the 21st century vaccination fell as a growing reluctance to have children vaccination after the MMR (Measles, Mumps, Rubella) vaccine scandal in the 1990s when Dr Andrew Wakefield wrongly claimed the vaccine caused autism in children.

Around the world the Anti-Vax movement has spread over social media trying to persuade people that vaccination is wrong or too dangerous.

Government attempts to improve public health and welfare in the 21st century [KQ6 for more details]

In the 21st century, governments and agencies have put more and more effort into health education to persuade people to live healthier lifestyles eg. cutting down cancer rates, persuading people to stop smoking, reducing heart disease by encouraging people to get more exercise or reducing obesity and diabetes by encouraging people to eat more healthily.