

HISTORY OF VACCINATION

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HIGHLIGHTS

- Vaccines are regarded as the most important health advance in the 20th century.
- Vaccines are credited by health professionals and lay people for reducing childhood mortality.
- Inoculation was first practiced in India by the Brahmins in the 17th century.
- The Edward Jenner is credited with developing the first successful smallpox vaccine.
- Abysmal sanitation, poor housing quality, substandard city planning, deficient nutrition, child labour, and other preventable factors contributed to significant morbidity and mortality rates.

WHAT IS VACCINATION AND WHAT ARE VACCINES?

Vaccination involves the administration of antigenic material to stimulate an individual's immune system with the goal of developing adaptive immunity to a pathogen. Vaccines are touted by health professionals and lay people for their ability to reduce childhood morbidity and mortality. There are live attenuated vaccines which use a weakened virus that causes a disease. Sources argue that these vaccines create a strong and long lasting immune response for lifetime protection against contracting a disease. Inactivated vaccines use a killed version of a virus that causes a disease. Sources say that several doses may be required over time in order to get continuous immunity against diseases. Other vaccines such as subunit, recombinant, polysaccharide, and conjugate vaccines use specific pieces of virus. They might use virus proteins, sugars or capsids. Toxoid vaccines use a toxin produced by the virus that causes a disease. The idea is for the immune response to target the toxin instead of the whole virus.

EXAMPLES OF VACCINATION IN HISTORY

In the 1600's, there are various British sources which indicate that vaccination was practiced. In India, tikah (inoculation) was being practiced by the Brahmins. According to Bhamanian records, this practice was given to them by their god. These people used a sharp iron needle with a small amount of smallpox to inoculate individuals.

In the western world, Mary Wortley Montague in 1717 returned from the Ottoman Empire with a practice called variolation. The idea was to inoculate individuals with smallpox while keeping them in a controlled environment where they could be monitored. The intended result was for individuals to overcome a mild form of disease and become immune to the pathogen. However, this rarely occurred. Rather than containing and vanquishing smallpox, patients died and the procedure spread disease to surrounding communities.

In 1796, Edward Jenner administered what some believe to be the world's first vaccine. According to his observations, he noticed that milkmaids who contracted cowpox did not catch smallpox. On May 14, 1796, he took cowpox fluid from a blister and scratched it into the skin of eight year old James Phipps. James developed a blister at the site of inoculation and that was it. Jenner followed up with an inoculation of smallpox matter and no disease developed.



- Jenner claimed that lifelong immunity to smallpox could be accomplished using his technique of variolation.
- Lack of housing standards, poor sanitation, lack of adequate nutrition, polluted water and lack of worker health and safety were some contributing factors to contracting and spreading disease.
- Animal products were dangerous to consume.
- Fruits and vegetables were of poor quality.

HISTORICAL CONSIDERATIONS ABOUT E.JENNER

Success of variolation depended on factors such as the experience of the operator and technique used. Looking back at historical records, it is difficult to ascertain with clear certainty whether or not James Phipps was inoculated with sufficient smallpox virus to cause disease. Secondly, Jenner's theory of successful inoculation wasn't without critics. In his paper published in 1798, Jenner claimed that lifelong immunity to smallpox could be accomplished using his technique of variolation. Many doctors had seen smallpox follow cowpox, and these people challenged his doctrine at the meeting of the Medico-Convivial Society. According to Dr. Walter Hadwen in his book called *The Case Against Vaccination*, the cow doctors could have told Jenner of hundreds of cases where smallpox had followed cowpox.

CONDITIONS IN EUROPE AND NORTH AMERICA

In Europe and North America there were many factors that contributed to the lethality and spread of diseases. In 19th century Europe and North America, a common problem in cities was overcrowding from lack building regulations and city planning. Slum dwelling was commonplace. In the mid 1800's, New York City had as many as 100,000 people living in only 20,000 tenement buildings. Some common insufficient building planning features included narrow alleyways, construction of small wooden tenements, insufficient water drainage and crowding many people onto one property. These factors increased the spread of disease because people had difficulty keeping their living spaces clean and the close contact between people made the probability of airborne and contact transmission more likely. In some cities in the early 1900's, as many as fourteen families would share a single bathroom. To make the living situation more dangerous, clean water, and proper sewage treatment were uncommon. Many families did not have the proper sanitary infrastructure to support good health. Human and animal waste would foul streets and contaminate local streams and the drinking water supply. Disease was commonplace.

NUTRITION

What greatly contributed to the contraction and spread of infectious diseases was inadequate nutrition and food borne illnesses. In major cities such as Chicago and New York, safe food was in short supply. New York's milk supply was so dangerous that the milk dealers were charged with killing eight thousand children every year. Meat was also unsafe to eat. In 1860's England, diseased meat was made into sausages, pickled or cured for ham and bacon. This meat would be sold to the public in order to avoid financial loss. Often, vegetables and fruits that were quite decayed were purchased and eaten. Due to the poor quality of food and food borne illnesses, people did not have the physical stamina to resist infectious diseases.



- Following simple principles of health is important for maintaining a strong immune system.
- Public health improvements such as sewage collection and treatment, water supply protection, waste removal and disposal, health and safety legislation, food safety standards and nutrition education were factors in reducing the burden of disease.
- Seventh Day Adventists champion principles of health reform based on the Holy Bible.
- By the late 19th century, the smallpox mortality rate was reduced to 1 in 380.
- History clearly demonstrates that vaccines contributed to harming adults and children.

THE HEALTH REVOLUTION

People were waking up to the reality that good health comes from adhering to simple principles for optimal living. Local governments began introducing acts and regulations to protect people's health. Varied health professionals and activists pushed for changes and improvements. In the 1850's and 60's the sanitary movement stimulated the development of sewage collection and treatment, water supply protection, waste removal, and labour laws. During this time a religious awakening was happening. Seventh Day Adventists contributed positively to the health revolution. Health revolutionaries such as Ellen Harmon White, John Loughborough, John Harvey Kellogg, and others spread principles of health reform all over the United States of America and elsewhere. Living by the principle of *Sola Scriptura* (the Bible only), Seventh Day Adventists brought Biblical health principles to bear upon health issues troubling the people of their day. The health revolution continued to gain momentum and success throughout the 19th and 20th centuries.

By the mid 20th century, a radical shift in public health occurred. Improvements in hygiene, sanitation, occupational health and safety, labour laws, and nutrition greatly affected modern civilization. Morbidity and mortality was on a rapid decline. By the time laboratory medicine gained prominence, much of the success of health reform was already carried out by improvements in public health principles. By 1897, smallpox no longer killed 1 in 5 children, but only killed between 1 and 50 and then later further reduced to a mortality rate of 1 in 380.

WHAT DOES HISTORY TELL US?

By the time the vaccines that we know of today were developed, much of the work of reducing the burden of infectious diseases was already accomplished by improvements in hygiene, sanitation, waste management, food safety and quality, nutrition education, and health and safety legislation. By digging deeper into the history, the careful researcher will find that vaccines functioned contrary to their intended purpose. Early vaccines killed and maimed children and spread diseases. Although vaccination is a hotly debated topic today, history and current research combined will tell the same sad story. The story of suffering, misery and woe. "The Doctors" summed up the pro-vaccine movement quite well with their letter advertisement....

*"Try re-vaccination--It never will hurt you,
For re-vaccination has this one great virtue:
Should it injure or kill you whenever you receive it,
We all stand prepared to refuse to believe it."
--From a circular signed "The Doctors," 1876*

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Readings for this Article:

An account of the manner of inoculating for the smallpox in the East Indies, by J. Z. Holwell, F.R.S. addressed to the President and Members of the College of Physicians in London

Dissolving Illusions by Suzanne Humphries & Roman Bystrianyk

Murder by Injection by Eustace Mullins

Operation of inoculation of the smallpox as performed in Bengall from Re. Coult to Dr. Oliver Coult in 'An account of the diseases of Bengall' Calcutta, dated February 10, 1731