

Component 1

Incidence of disease in communities.

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Introduction

Polio is a critical infection that infect the nervous system, it becomes uncommon thanks to the vaccination programme, the probability to catch it in England is very low,

but it's funded in a few countries. Luckily from 1984 there is no paralysis cases caused by Polio caught at list in UK (NHS, 2022).



(Immunize.org, 2021).

Many poliovirus patients don't show any obvious symptoms, but one every five people or 25 every 100 people can get symptoms comparable to the flu as: sore throat, fever, tiredness, nausea, headache, stomach pain (CDC, 2022).

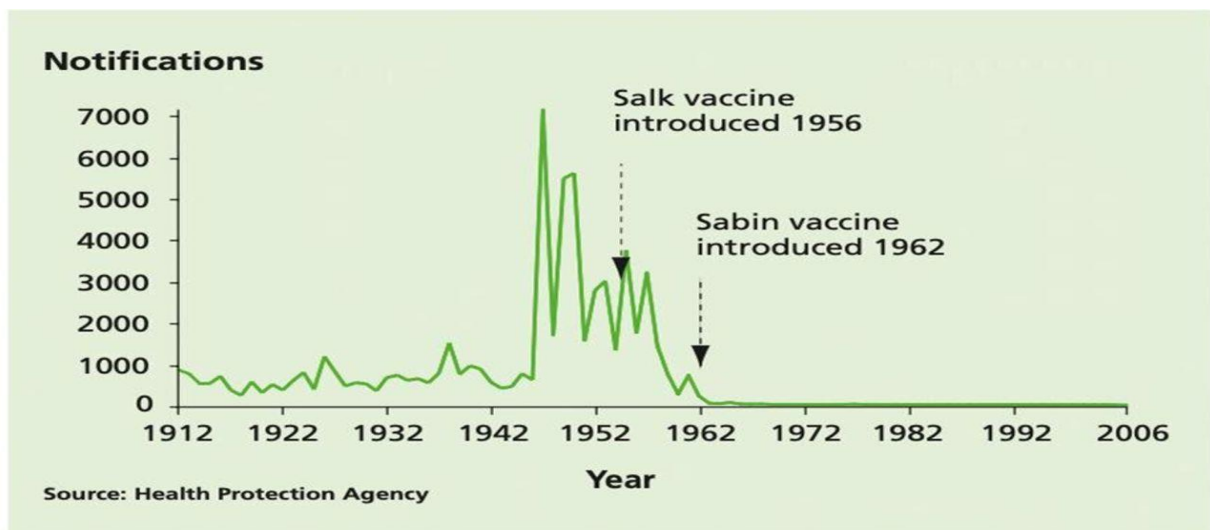
The duration of these symptoms can be from 2 to 4 days in a person then he will recover from them. Unfortunately a lower number of those infected with the poliovirus can suffer having worse illnesses that involve the brain and spinal cord (CDC, 2022).

- **Meningitis** when the infection touches the spinal cord and/or the brain.
- **Paralysis** when the patient is unable to control or to use one or more parts of the body, also he can be limited with his arms, legs, or both is depending on virus type and the illness can have a permanent effect (CDC, 2022).

Poliovirus is transmitted between people infected if there is contact with feces or droplets from sneeze or cough (very rare), that's why it is called as a communicable disease. The body of the virus survives in the throat and intestine of the patient. Food and water can be contaminated in unhygienic circumstances (CDC, 2022).

How to measure Poliovirus in the UK?

According to the University of Oxford (2018), in this period there aren't cases of deaths of poliomyelitis. In 1950 there were found 8000 people that get polio and the deaths were about 750. There are two frequent ways to measure the diseases mortality and morbidity, fortunately from 1984 there is no cases of Poliovirus causing paralysis (NHS, 2022). From 1985 until 2002 the vaccine used in the UK was the oral polio vaccine (OPV) that it was getting poliovirus to small part of the vaccinated people, and they were 30 cases in this period. Since 2004 the UK changed the vaccine using the inactivated (killed) polio vaccine that cannot transmit the disease itself (University of Oxford, 2018).



(BMJ Journals, 2022).

In London Beckton, there is the largest sewage treatment work in Europe. It is offering water to one of the immense cities in the world. From this sewage they were collected a multiple vaccine like type 2 poliovirus between February and June 2022 (UKParliament, 2022).

After this incidence in June 2022, the UK Health Security Agency informed the NHS of the discoveries and prompted doctors to record paralysis instances and gather suitable samples for testing, also medical practitioners are required to notify health protection teams of suspicious cases of polio because it is a disease that must be reported in the UK (UKParliament, 2022).

UKHSA has requested that healthcare and school immunisation providers make sure that recently registered children and adults, migrants, asylum seekers, and refugees are up to date on their polio vaccinations (UKParliament, 2022).

How to control Poliovirus in the UK?

The only way to control the virus is to offer the full doses of vaccination to adult and child in such a way to have higher level of immunisation. After having the injections, the little body of a child start to combat against the poliovirus. Nearly more than 99 percent of children vaccinated with all doses are protected from polio. also washing our hands with soap and water often helps you to prevent to have and transmit the virus (CDC, 2023).

How to monitor Poliovirus in the UK?

One of the big plan to monitor polio is the poliovirus surveillance, that is a agency that measure, check, control all details of surveillance and analysis.

The fundamental components of monitoring include keeping an eye on the number and source of independent monitors, the number of children observed, the proportion of districts monitored, and the percentage of kids whose fingers are marked to show they were immunised (Polio Global Eradication Initiative, undated).

Why collecting data is important?

The question "How many children are vaccinated?" can be answered using real-time, independent monitoring data. Thanks to the results of this data analysis it is possible to know how many children are missed from the vaccination campaign, to solve the problem covering the number of unvaccinated children to avoid the spread of polio (Polio Global Eradication Initiative, undated).

Conclusion

This supporting paper elaborates one of the biggest diseases happened in the past that became rare in UK and Europe because of the big effort had in the vaccine campaign still available at all children aged between 1 and 9 years old. It is important to know the causes that origin the diseases and the symptoms once you have had the illness and the way to fight it before and after the transmission. All this information has been written and elaborated with a personal evaluation supported by evidence with references. The introduction gives knowledge regarding polio, subsequently there is an analysis regarding to how to measure, to control and to monitor the poliovirus. The first photo represents the machines that treated patients with Poliovirus paralysis and it is important because it gives us a clear idea of how the vaccine against the disease has changed the life of presumed patients in case of non-vaccination from the latter. The second photo gives us facts of how the disease has been gradually eliminated over the years.

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