



University of Wales
Trinity Saint David
LONDON

Assessment 1

Module name: Introduction to Public Health

Module code: LCHS4004

incidence of disease in communities – supporting paper,
POLIO.

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Supporting paper (1000 words) about the disease discussed in the group/case study:

Polio

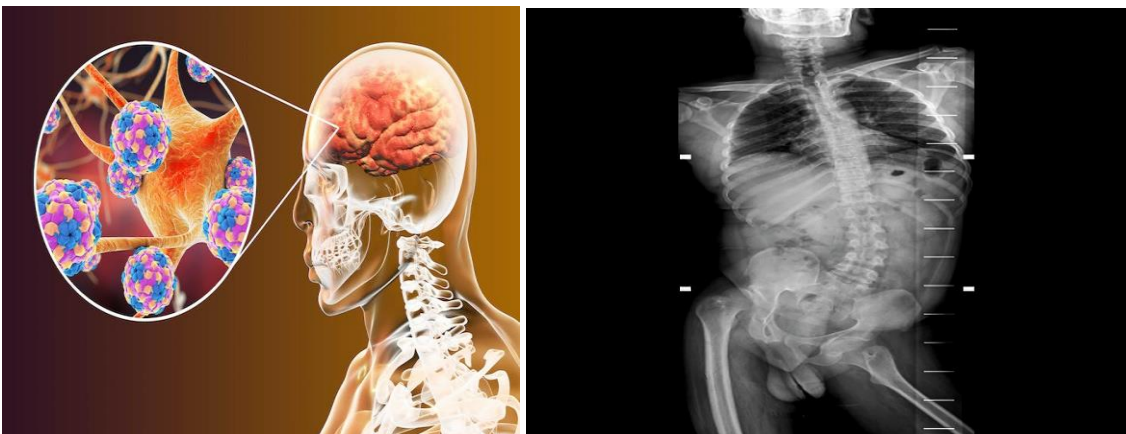
Introduction:

Polio, called also **poliomyelitis**, is a significant infection that is rarer since the vaccination plan, but still spreads in region of countries with low vaccination.

This disease is created by the poliovirus, that is the representative part that brings the polio. The poliovirus is a serotype of the variety **enterovirus C** and essentially **aim on nerve cells in the spinal cord** and the central brain part, that be in charge of muscles, but this virus doesn't affect nerve cells of the brain that give perceptions or emotions.

Polio can make a person unable to move joints, making the body of a person paralysed, and it can give also serious issues in breathing and also infrequently death. This virus is a communicable disease, that's mean that is transmissible from individual to individual, and is spreads through contact with the stool and from sneeze and cough (via mouth). An example, in a situation where a person doesn't wash hands properly after coughing.

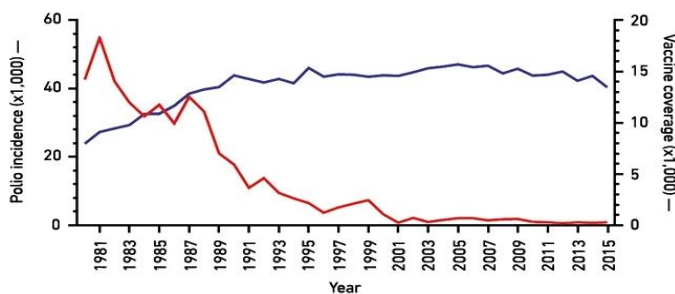
This virus brings acute and serious disease such as permanent paralysis, muscle that affect joints or bones that doesn't have a normal shape, persistent and long-term pain and deaths. The greatest amount of individuals that get affected with the poliovirus don't have symptoms, but there are some people that get symptoms such as: sore throat, fever, tiredness, nausea, headache and stomach pain. These symptoms remain in the body from 5 to 10 days, and they go automatically without the need of medication.



Strategies used in the UK to measure the incidence of Poliomyelitis:

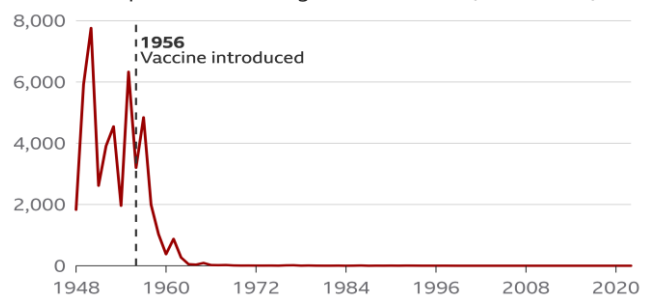
Mortality:

Nowadays, is rarer to have **death** for poliomyelitis, the UK Health Security Agency has declared a rare national incidence on June of 2022 after they have found a case of poliovirus after 40 years. Before the vaccination in opposition of the polio, that was established in 1950 in the UK, in that period 8000 people were affected each year and the death was nearest 750. The last epidemic of polio was in 1970 and the last individual that had the polio in the UK was in the late 1984. So, as stated before, is rarer since the vaccination plan (WHO, 2022).



How polio was eradicated

Number of polio cases in England and Wales (1948-2022)



Source: Public Health England

B B C

Instead, the rate of **morbidity** in uk is about 2% to 5% between children and instead up to 15% to 30% between adolescents and adults. Is significant to collect mortality (deaths rates) and morbidity (symptoms rates) data because they are a support to be noticed about the health conditions that a disease bring to the population and in such a way is not complicated for the researchers to know how many people are affected, and this is also a best analysis to know also how to control the disease, an example if is communicable. (If is communicable is easy to know how to control because in this way the researchers know how many are affected by symptoms and how many are died, in this way when is known the lowest or the highest number of people affected, become easy to find a solution to control. An example with the COVID-19 in a period when there were many people that was dying, they knew with the mortality and morbidity statistics how to control the disease with strategies like lockdown).

Strategies used in the UK to monitor the incidence of Poliomyelitis:

One of the best strategies to monitor polio is the poliovirus environmental surveillance and is a plan to collect and recognise poliovirus transmission. An example while monitoring the polio we can know that the paralysis arises 1% of infection, and the environmental surveillance can mark and perceive the transmission of the virus.

The main component of monitoring includes: the number of monitors to measure the disease, the amount of children that were vaccinated and identifying and research the virus in their research laboratory.

Surveillance is an office that actually check all the data of surveillance and is one of the greatest plans to monitor the incidence of polio, and is a documentation of activity concerning the collection, analysis and explanation of data from different fount such as comparison of data, examine ages and groups of people affected by the virus, and circumstances that assist the expansion of the poliomyelitis. The surveillance assesses the efficacy of control health measures and monitor the changes in the polio, gives a good record of disease and make also a strategy to support and help a suitable healthcare system and in this way there's also a high quality of collection of data about the effect of immunisation for the poliovirus.

Surveillance can give information about how to carry out control measures, it supplies a prospective of the disease, permit to find a better treatment after knew how many people are affected and to know perfectly how many individuals are affected also know how many people are excluded from having the disease.

Actually, surveillance is relevant because this support all countries to monitor and assess the trends of the disease. The benefit of surveillance of polio is to monitor and stay noticed about the impact of the polio.

Strategies used in the UK to control the incidence of Poliomyelitis:

The sector that is occupied about control the disease of the polio, has organised and installed a campaign strategy for destroy the poliovirus. The actual plan of that period, was to kill the virus and to put in security the population, was to have a high level immunity and was really important and was a point of a strategy planned, in such a way to keep the polio regulated in the future and without having heavy symptoms. In 1995 was introduced a "inactivated polio vaccine" (IPV), studied, made and licensed, then after some years was introduced another poliomyelitis vaccine.

So, in the UK, the vaccine was a first and principal point to give a high level of boost immunisation. That was a period which was established many campaigns for make and plan how to have good immunisation for all type of individual, between ages and disease, child, elderly etc.. . The aim of the vaccine was to high the level of immunisation, in such a way to try to kill the poliovirus, this was the most efficient strategy. Two doses of Inactivated polio vaccine (IPV) are 90% effective in contrast to poliomyelitis and the third dose give a 99% or also in some cases 100% of efficacy and potency. The protection that gives the vaccine depends on the full course of vaccination, provide a sure protection for many years. Nowadays in the uk, additionally doses are given at age of 3 years and 4 months, and around 14 years for a maximum booster, for immunity security.

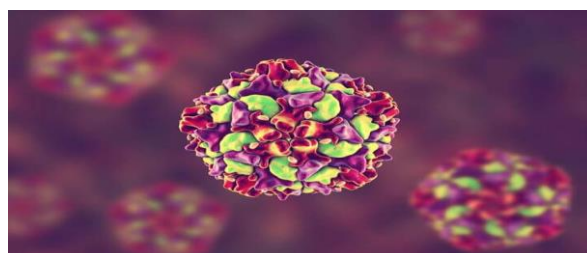
The vaccination is one of the most relevant measures to control the poliomyelitis and is important because as I said give a high level of immunisation and guarantee a protection from paralysis and help decrease the expansion of the virus.

1.5 million of child they had prevented from the polio because of the vaccine.



Conclusion:

At least is really relevant to know about the disease, to know that the data of mortality and morbidity are the main to keep updated about the disease and also to plan strategy to control it when these data are available. Another main component is to keep always environmental surveillance to monitor perfectly the virus and is also nowadays important to continue to do the vaccine regard the NHS plan about the vaccine, in such a way that all individual's are prevented by the virus and to remind also with campaign to be protected from the virus with vaccination.



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