



INTRODUCTION TO PUBLIC HEALTH(LCHS4004)

INCIDENCE OF DISEASE IN COMMUNITIES

Tuberculosis

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Índice

INTRODUCTION.....	3
STRATEGIES USED IN THE UK TO MEASURE THE INCIDENCE OF THE DISEASE IN YOUR CASE STUDY AND CRITICALLY EVALUATE IT.	4
STRATEGIES USED IN THE UK TO MONITOR THE INCIDENCE OF THE DISEASE IN YOUR CASE STUDY AND CRITICALLY EVALUATE IT.	5
STRATEGIES USED IN THE UK TO CONTROL THE INCIDENCE OF THE DISEASE IN YOUR CASE STUDY AND CRITICALLY EVALUATE IT.	6
UK GOVERNMENT POLICY AND STRATEGIES	8
CONCLUSION.....	9
REFERENCES.....	10

Introduction

This report aims to describe and explain the main approach strategies used to measure, monitor and control the incidence of tuberculosis.

Tuberculosis is an infectious and transmissible disease, it mainly affects the lungs, although it can attack other organs and systems. This disease is caused by the bacteria *Mycobacterium tuberculosis*, the symptoms caused are fever, cough, sputum, weight loss among others.

the case study presented to us is Mr. Patel, 21, an English student who shares an apartment with five other people. Newly arrived from Bangladesh in 2009, he was referred to the emergency room by his physician with a 2-month history of cough, fever, night sweats, and 5 kg weight loss.

Thus, throughout the report, the strategies used by the United Kingdom to control the incidence of tuberculosis will be aborted.

Strategies used in the UK to measure the incidence of the disease

According to Public Health England (2015), the UK has the highest incidence of tuberculosis compared to most Western European countries and four times higher than the US. In England, areas with high incidence are concentrated in a small number of areas, although complicated cases of the disease and multidrug-resistant disease may exist in other areas of the country.

This increase is due to a combination of factors such as increased migration of people from areas where there are cases of tuberculosis, increased mobility, emergence of HIV and an aging population (NHS, 2006)

A total of 4,425 people were notified of tuberculosis in 2021, an annual rate of 7.8 per 100,000 population, this increase represents 7.3% compared to 2020 where the number of notifications was 6.8% (GOV.UK, 2023).

Strategies used in the UK to monitor the incidence of the disease

National tuberculosis surveillance is carried out by Public Health England (PHE), data are provided by local clinical services and laboratories. The UK has a good quality surveillance service that provides the basis for a good understanding of the epidemiology of TB, essential for targeting TB control and monitoring its impact.

The surveillance service monitors the propensity for incidence and drug resistance, identifies outbreaks and risk groups for the disease, in addition to collecting important data to monitor compliance with control actions and monitor the results of tuberculosis treatment. These data collected by the surveillance service are disseminated in local and national reports.

Monitoring indicators currently available in the UK:

- Decrease the incidence of tuberculosis
- Reduce health inequalities associated with tuberculosis.
- Reduce the transmission of tuberculosis
- Early diagnosis
- Access to high-quality diagnostics
- the care treatment service
- Drug-resistant of tuberculosis
- Comprehensive contact tracing
- Implementation of new received latent TB screening
- Adherence to BCG vaccination

Strategies used in the UK to control the incidence of the disease

The UK's TB control strategy needs to adjust between medical and societal interferences, to address its underlying determinants. To control the incidence of tuberculosis, they created an action plan that contains ten areas where improvements need to be made, including rapid diagnosis and ensuring adequate treatment.

Identify the states where TB is most common and ensure that the health service is prepared to identify symptoms and provide treatment and ensure that people can identify symptoms and seek health care early in the illness (Ibrahim, 2015).

Other tuberculosis control measures:

- Early diagnosis is important

A rapid diagnosis avoids the high morbidity, mortality and costs and the increasing transmission of tuberculosis.

- Reduces drug resistance

There is a risk of developing drug-resistant strains, they are poorly adhered to or poorly administered to the drug, so it is important that those infected have support to allow them to meet the demands of long-term treatment.

- I adhered to the treatment, and it is important

In the UK, 80% of treatments at 12 months show good results. Tuberculosis without treatment can be fatal, those who survive without treatment can develop long-term health problems and become infectious. For a standard of quality TB care and control, high quality and completion of treatment are important to prevent the development of drug resistance and improve TB control.

- Improve BCG Vaccination

The Bacillus Calmette-Guerin (BCG) vaccine is used to help protect against tuberculosis, it is given to children under 12 months who live in areas where tuberculosis is endemic, children under 16 whose parents and grandparents were born in areas where it has incidence, immigrants from countries where there is high prevalence who have not been vaccinated. It is recommended that people under the age of 35 who intend to live, visit, live or work for more than one month in countries with a high rate of tuberculosis be immunized with BCG.

- Isolation of diagnosed cases

Isolate infected people in hospital or receive treatment at home and quarantine close contacts to prevent further cases.

- Contact tracing after diagnosing an active case

Recognize people who have had contact with infectious TB, get tested and identify latent TB. If not infected

Identify people who are not infected but may be part of a high-risk group and undergo BCG vaccination.

UK Government Policy and strategies

England still has a high rate of tuberculosis compared to most Western European countries, despite a decrease in the incidence of tuberculosis. That's why an action plan from 2021 to 2026 was created to improve the control, detection and prevention of tuberculosis in England. Also paying attention to people affected by the impact of the coronavirus (COVID-19) pandemic.

To continue to reduce the incidence it is necessary to face some challenges, which allowed for innovation and an organized national solution that would guide England towards the elimination of tuberculosis.

This action plan includes the following:

- Make the population and health professionals aware of the disease and reduce the delay in diagnosis.
- Improving TB screening in England by leveraging WDG data and other new technologies.
- Reduce inequality and ensure that STPS and ICSs include tuberculosis in their health prevention and inequality agenda.
- Ensure that low-incidence areas continue to provide effective, high-quality services.
- Increase uptake of latent TB testing and treatment.
- Improve TB control at local and national levels.

Conclusion

In short, despite the increase in the number of tuberculosis cases, the incidence rate remains low in the UK. So a strategy of ten action areas was launched to improve tuberculosis prevention and control, which helped to reduce the incidence of tuberculosis by 29%. The collaborative tuberculosis strategy focuses on combating tuberculosis in underprivileged populations, reducing the number of delays in diagnosis and transmission, variation in the incidence of tuberculosis and the demographic profiles of patients, among other points.

Despite the improvement in the eradication of tuberculosis, there are still improvements to be made, so the focus is on the next 5 years, with the objective of working collaboratively for the elimination of tuberculosis.

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