Tuberculosis in East London

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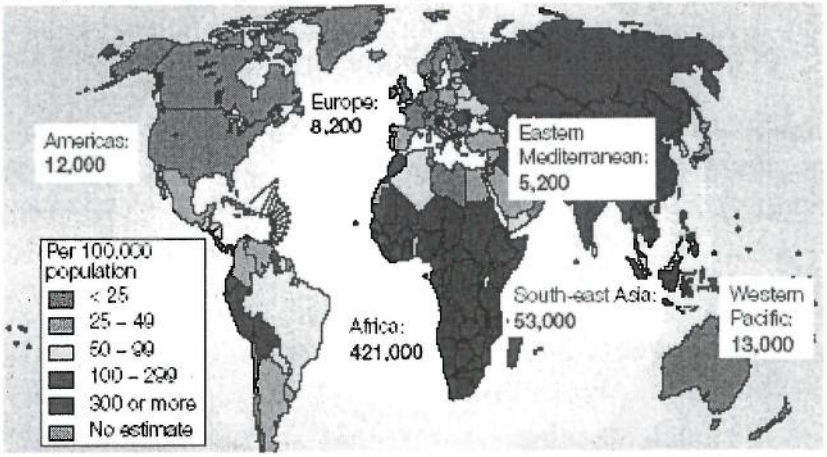
Objectives:

1. What is the prevalence of TB in the borough of Newham? Being an area populated highly with South Asian communities, does such a trend exist around the world?
2. How does the rigorous treatment regime for TB applied here in the UK differ to the treatment regime in the largest of the 'TB hot spots' around the world, namely within South Asia?
3. With regards to TB prophylaxis...what is the classification of high/low risk for immunisation? Should TB prophylaxis be given regardless of risk assessment?
4. To practice my clinical skills to take histories from TB patients, where there may be a language barrier and reflect on how I overcome this. To also aid patients in improving compliance to treatment via better communication.

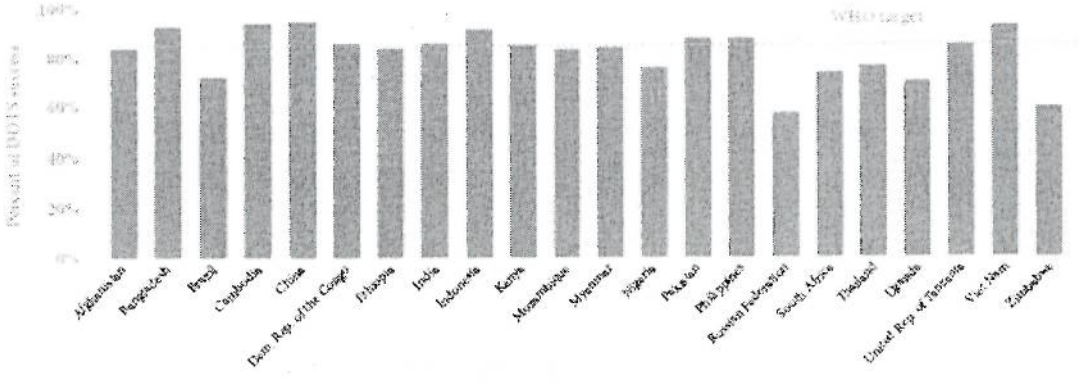
Tuberculosis is one of the major infectious diseases that predominates all over the world, and with it, it carries a huge burden on society. Looking at the trends of TB from around the world, this infection is widespread, with the majority seeming to be prevalent within Africa and South East Asia.



Looking specifically within the UK, a study from 2000 showed that Newham has one of the highest notification rates of TB, and what is worse is that it is still on the increase. They concluded that the main contributing factor for the high rates was because TB is prevalent in areas where there are deprived social circumstances and poor living conditions and with Newham being the fourth most socially deprived borough in London, this infection is bound to be present. TB may be called a "disease of poverty", hence fitting in with the general

trends around the world, prevailing in many of the developing countries. The Director of Public Health in Newham stated "global health patterns are reflected in health changes in London and they are equally reflected in Newham." Such patterns may exist in Newham because this area is highly populated with immigrants from countries with a high TB prevalence so are more likely to have already have been exposed to TB and remain with a latent infection once immigrated. It is these immigrants that are usually not immune to such infectious diseases due to poor medical attention and not having received the BCG vaccination. The degree of overcrowding also plays a part in increasing the risk of infection, spreading it and hindering resolution, possibly even after successful treatment. All in all when examining an area with high prevalence it is important to look at the local population, their living circumstances as well as socioeconomic status. It is also important to remember when looking at these figures, that not all cases of TB are reported, especially where reporting may be difficult mostly in the vulnerable people like the homeless, immigrant and prison population.

Fortunately due to the increase and advances in medical treatment and the ease of access to medical services, the generic treatment for TB is slowly but surely being implemented across the world in order to try eradicating such infection. The huge global burden of TB can be lessened with some of the same interventions, provided that the facilities are available. Currently within the UK, the treatment regime is considered to be quite simple consisting of a 6 month course of a number of antibiotics. These same antibiotics are also available in South East Asia and are affordable even for those more deprived. The problem only arises when further more expensive antibiotics are required if the patient becomes resistant to current therapies.
Furthermore, it has been delightful for me to learn that Directly Observed Therapy, Short Course (DOTS), has been implemented in many countries, hence helping with better treatment and reduced cases of resistance. It has been shown to be quite successful in the majority of the high burden countries, as shown by the diagram below:
http://www.ariatlas.org/understanding_aris/tuberculosis



However, the main problem still lies with prevention as opposed to treatment alone. By this I mean that those factors that increase the risk of TB emerging need to be targeted in order to reduce the number of new cases. For example, attempts need to be made at improving living conditions and social circumstances. However I do understand that this is very ambitious and requires a lot of change, with the concept of globally improving social circumstances is quite a challenge and frankly almost impossible. Nonetheless if small changes are made such as improving food hygiene and avoiding overcrowding, this could significantly reduce the incidence of TB. The problem lies with the fact that if living conditions and other

contributing factors are not managed, even after treatment, TB has high chances of re-emerging, hence overall increasing cost for the patient as well as prolonged illness. Also perhaps the access to medical services globally may need to be looked into.

This leads me into the discussion of risk classification for prophylaxis measures. The study mentioned earlier suggested that in order to control TB, "the measures implemented should be targeted at those areas where members of the community are most at risk". Previously all children were immunised at the age of 13 at school but since 2005, under the new WHO policy, not everyone is vaccinated against TB, except those that are classified as high risk. Currently, the vaccine programme is for the following people that live in areas that have a significant annual incidence of TB (greater than 40/100,000) (WHO):

- All infants or those children with a parent or grandparent who was born in a country with a significant annual incidence of TB.
- Previously unvaccinated children aged 1 to 5 years with the same background and this can be done *without* tuberculin testing.
- Children aged 6 to 16 years who are previously unvaccinated and tuberculin-negative with a parent or grandparent who was born in a country with a significant annual incidence of TB after negative tuberculin testing.
- Previously unvaccinated, tuberculin-negative immigrants under the age of 16 years from countries with a significant incidence of TB.
- Previously unvaccinated, tuberculin-negative contacts of respiratory TB cases or individuals with high risk of occupational or travel exposure.

I agree with this protocol to some degree that it is more economical to target the high risk. However, in the long term I feel it would be most cost effective if everyone was entitled to vaccines to prevent TB, rather than wait for the infection to occur.

Finally, over the last 5 weeks I have encountered many patients currently suffering with TB, previous sufferers of TB and those who have had recent admissions into hospital for treatment. I was asked to take histories and do complete examinations on each patient. I noticed that the majority of the patients were recent immigrants from Asia, some of which I could communicate with in Urdu and Panjabi and others with whom I couldn't. With these patients I communicated by breaking down my English and using more simple and easily recognisable words using hand gestures to exemplify what I was attempting to say. I found this to be very effective. I also came across a non-compliant patient and was asked by my tutor to try and talk to him and explain the importance of treatment and its intended benefits. I approached this situation by taking extra time out after the consultation to ask the patient what he understood by TB and its effects on the health and then corrected any misconceptions. After gauging the patient's level of understanding, I went on to explain in simple terms the disease and its treatment to come to an arrangement with the patient, confirming this with my tutor. A week later, I was informed by my tutor this patient was more compliant with his medication because of my discussion with him as he had a better understanding of the risks attached to non-compliance. I used my patient centred approach to help a patient understand a disease and its effects, ultimately aiding in the process of improving health beliefs.