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A Comparison of HIV Epidemiology and Management in the UK and Tanzania: with regards to maternal and child health

A Background of HIV in Tanzania and the UK

The World Health Organisation (WHO) estimates that 34 million people worldwide are living with HIV. As a result HIV infection represents a large burden on healthcare across the world, largely due to its many complications that greatly increase morbidity and mortality. In 2012 it is estimated that 1.5 million people were living with HIV and AIDS in Tanzania; 48% were women and 15% children. In the same year 98,400 people in the UK were living with HIV.

In both the UK and Tanzania the major mode of HIV infection is via sexual intercourse without the use of condoms. Table 1 lists the significant drivers of the epidemic in the UK and Tanzania.

Table 1: Drivers of the HIV Epidemic

UK and Tanzania	More Specifically Tanzania
Promiscuity	Intergenerational sex
Concurrent STI infection	Concurrent partners
Substance abuse (especially alcohol)	Inadequate understanding of HIV
Commercial sex workers	Vertical transmission from mother to child

Mother to child transmission (MTCT) is the most common mode of HIV infection among children in Tanzania, accounting for more than 90% of all children infected with HIV below 15 years. Globally there are approximately 600,000 child deaths a year due to HIV. Therefore preventing MTCT is a major focus of The United Republic of Tanzania's Ministry of Health national guidelines on HIV. The guidelines stress the importance of integrating PMTCT into routine reproductive and child health services.

Local and global guidelines focus on education as the key to preventing the further spread of HIV throughout the world. In the UK education takes many forms and starts as early in life as sexual health education at school. This early understanding can be expanded with education provided by universities, family doctors, hospitals, charities and websites. Not only do they often offer information but also vital resources such as free condoms and needle exchange programmes. In Tanzania education is in its early stages with preliminary efforts focusing at a community level on important matters such as sexuality, gender roles, cultural practices and introducing the concept of HIV transmission.

In the UK patients are often well informed about sexual health and can easily access HIV testing via their family doctor, hospital, sexual health walk-in centres and charities such as Terrence Higgins Trust. Additionally doctors encourage HIV testing for all patients admitted to hospital. Huruma Hospital in Northern Tanzania has adopted the Provider Initiated Testing and Counseling (PITC) initiative. The idea of which is for the healthcare provider to educate the patient about HIV so they can make an informed decision

regarding testing. This can be implemented opportunistically, regardless of the reason for attendance.

The complications of HIV are common at Huruma Hospital where many patients are admitted with wasting, diarrhea, PCP, anaemia and co-infection with TB. The national TB infection rate in Tanzania has increased five-fold since 1980 when the National TB Programme was established. Poor ARV adherence is an obstacle to effective treatment n lead to higher rates of complications. Table 2 lists reasons for poor compliance.

Table 2: Reasons Given for Poor Compliance to HIV Treatment at Huruma Hospital
Forgetting to take tablets
Stigma and peer pressure to not take tablets
Sharing tablets with friends and family members
Work commitments
Side-effects
Concurrent alcohol abuse
Patient feels well and unaffected by their HIV infection so perceives no need to take medication

HIV in Child and Maternal Health

Preventing Mother to Child Transmission (PMTCT) requires the prevention of HIV transmission during pregnancy, delivery and breast feeding. Ideally the pregnant woman will book early (before 12 weeks) and then attends a Reproductive Child Health Clinic, along with her partner, for education on HIV and they both receive HIV testing. If the woman is found to be seropositive she is provided with counseling on HIV along with her partner. She will also be offered anti-retroviral therapy in a programme known as "B plus management". The programme also involves having baseline testing for CD4 count, liver function, renal function and a full blood picture. At Huruma Hospital the drug regimen of choice for pregnant women is a combination of: tenofovir, lamivudine and efavirenz. The three drugs can be combined in one pill to be taken once every evening. These medications are then continued for life.

If a pregnant woman is already known to be HIV positive and receiving ARVs she can remain on her usual medication. In the UK the drugs of choice for pregnant women are zidovudine and lamivudine.

In both the UK and Tanzania the aim is for the maternal viral load will be so low that vertical transmission is practically impossible at birth. Without ARV treatment there is a 25% chance that a baby will develop HIV however with treatment this risk is reduced to less than 1%. Therefore with the correct antenatal care and compliance a woman can safely giver birth via spontaneous vaginal delivery. In Tanzania a Caesarean section is only indicated in following situations: dry labour, episiotomy, cephalo-pelvic disproportion and foetal or maternal distress.

British babies born to HIV positive mothers will receive ARVs, usually zidovudine twice daily, for 4 weeks after birth. They are predominantly tested for viral load in order to determine management. Every exposed Tanzanian baby is given nevarapine (NVP) for 6 weeks and then they are tested for HIV DNA PCR. If the test is negative the baby must continue NVP until one week after the mother ceases breast feeding. If the test is positive the baby must be tested for antibodies at 6-9 months. Babies still positive for antibodies past this point will commence ARV triple therapy e.g. zidovudine, lamivudine and NVP (known as Duovir Baby). The drug doses are calculated according to body weight and depending on response to treatment other regimens may need to be used.

Reflection

Previously I would not have been confident discussing the clinical manifestations and management of HIV. This is because the majority of my HIV education has been learning lists of complications, drug names and side effects. Plus I only saw a handful of patients with HIV in the UK. Our doctors at Huruma encouraged us to run the HIV clinic where we could speak (in rough Swahili) to patients about their symptoms and drug treatments. I became familiar with the commonly used drug regimes and their side effects. I also saw firsthand some of the complications: especially skin and chest manifestations of HIV. Repeatedly attending this clinic has been an invaluable learning opportunity for me and I now feel well-versed in HIV.

I also think that Huruma Hospital is leading the way in HIV in Northern Tanzania. I have discussed their approach with a number of students who are also on placement in Tanzania and they have had very different experience. One student said that you can't refer to HIV at his hospital in Dar El Salaam but instead must always say "seropositive". He also said instances of people being refused treatment due to their HIV positive status. This shocked me and made me realise what a privilege it has been to have a placement at Huruma and how other areas still have a long way to come in their approach to HIV.

My time at Huruma has given me endless opportunities to examine and manage patients. We have been given free reign to spend six weeks experiencing different departments in the hospital. We have always been made welcome and have received some excellent teaching. I have no doubt that this has been an invaluable personal and clinical experience.