Compare and Contrast the Biomedical and Complementary Treatment of HIV/AIDS

Introduction

In June 2001, HIV/AIDS had its 20th birthday. The arrival of the disease was a relatively low-key affair - a short, scientific news report described a cluster of homosexual men in the US with a rare skin cancer and an unusual bacterial pneumonia. Nobody could have predicted the scale of the epidemic that was to follow.

Since then, HIV/AIDS has captured world attention like no other disease of the modern age. From marginalised homosexual men and IV drug users, the disease spread quickly to the mainstream population, bringing the age of free love to an unceremonious end.

In the early 1990s HIV seemed invincible - health statistics charted its relentless spread around the globe, and medical science seemed powerless to stop it. By the end of 2003, UNAIDS reported that there were 38 million people globally living with AIDS (UNAIDS:2004 Report on the Global AIDS

Epidemic).
Treatment for HIV/AIDS is an ongoing development, however it is apparent that the current medical approach in controlling HIV causes detrimental harm to the patient. Western medicine is starting to pull back from the concept of current medication being the only treatment option, and offer alternative strategies in the maintenance of health - emotionally, mentally and physically- with the aim to minimise side effects from medications, enhance the effectiveness of medication, and extend the duration of lives.
The purpose of this report is to show Australia's involvement in the advancements of HIV/AIDS research and treatment, and to demonstrate how by incorporating alternative therapies into current treatment plans can assist in the development of an integrative approach to disease management.

1 Establish the population make up of your local area
HIV/AIDS is a global epidemic, and Australia's prompt and rational actions have placed it at the forefront of best-practice population health responses to HIV/AIDS in the world (Fifth National HIV/AIDS Strategy, 2008). In the mid 1980s, the Commonwealth government developed an all-of-government strategy on AIDS. The strategy, which received bipartisan political endorsement, is characterised by a three-pronged approach, including prevention, treatment and care. The strategy aims to reduce the rate of transmission of infection and improve the quality of life for people living with HIV and AIDS. The strategy is underpinned by principles of social equity; involvement of affected communities; and evidenced based research.

Early implementation and rapid expansion of pragmatic prevention programs have been a key focus of the strategy. These include mass education campaigns; targeted education campaigns and focused strategies such needle syringe programs and voluntary screening. The estimated adult prevalence in Australia is about one sixth of that of the US and one third of Canada and France with Sydney having the highest population of HIV patients in Australia, so it would appear logical that majority of research and support centers are based in this local metropolitan area.

Transmission in Australia continues to occur primarily through sexual contact between men. Around 61% of people newly diagnosed with HIV infection in the period 2002-2006 were men with a history of homosexual contact; 19% were probably exposed through heterosexual contact; 6% were injecting drug users; and a further 7% were men with a history of both injecting drug use and homosexual contact. In 7% of cases the route of HIV transmission was categorised as other or undetermined (Australian Statistics Summary, 2008).

2 Identify one current main area of health concern in this local area
The primary area of concern in the area of HIV/AIDS is that, at this stage, there is simply no known cure. Due to the nature of the disease and its effect on the immune system, HIV/AIDS has been directly linked to an increased

incidence of malignancies, including Kaposi's sarcoma, lung and respiratory disorders, gastrointestinal disorders, as well as a number of cancers. In addition to the disease state complications, there are several concerns about antiretroviral regimens that are currently being used in the treatment of HIV/AIDS. The drugs can have serious side effects, and regimens can be complicated, requiring patients to take several pills at various times during the day. Also, providing anti-retroviral treatment is costly and resource-intensive, and the majority of the world's infected individuals cannot access treatment services.
Research to improve current treatments includes decreasing side effects of current drugs, further simplifying drug regimens to improve adherence, and determining the best sequence of regimens to manage drug resistance.
3. Establish the health services available in the local area

- Bobby Goldsmith Foundation Darlinghurst

Australia's largest community based charity organisation providing financial assistance, housing and counselling to people disadvantaged as a direct result of HIV illness.

- Association Federation of AIDS Organisations (AFAO) Surry Hills

A non-government organisation representing Australia's community-based response to HIV/AIDS. AFAO's work includes education, policy, advocacy and international projects

- Albion Street Centre Surry Hills

A community-based multi-disciplinary centre dealing exclusively with HIV/AIDS clinical management, counselling, research, prevention and education.

- Australian Society for HIV Medicine (ASHM) Surry Hills

Representing the medical and health center in HIV/AIDS, viral hepatitis, and related areas.

- AIDS Council of NSW (ACON) Surry Hills

A treatment information program – for all information on HIV and treatments

- Positive Living Centre Sydney Surry Hills

Takeaway meals, complementary therapies, bus and transport services, recreational activities for all HIV patients.

4. List the signs and symptoms of the chosen disease
The diagnosis of HIV infection is often missed because the clinician is not aware of the different signs and symptoms suggestive of HIV infection, and also because it is entirely plausible that a patient can live with HIV infection for many years without displaying any symptoms (The AIDS Manual; pg 31). The physical signs and symptoms associated with HIV infection are so varied that a complete physical and history examination, including laboratory tests and questions relating to sexual history, drug use and medical administration of blood and blood products needs to be investigated to determine when the infection may have occurred.

The most common early signs of HIV infection are constitutional and dermatological – fevers, fatigue, night sweats, lipodystrophy, diarrhoea,

herpes simplex, folliculitis, dermatitis and impetigo. These conditions need to be managed symptomatically, and because they may be associated with other underlying illnesses, the clinician needs to be diligent in determining their clinical importance.
Once the patient has been diagnosed and is put onto an appropriate course of antivirals, side effects from the drugs may occur. Most people taking ARVs have some side effects. In general, the higher the amount of drugs causes more side effects, dependent on the stage of disease, body weight, liver function and lifestyle management. Side effects may include nausea and vomiting, lack of appetite, diarrhoea, peripheral neuropathy, fatigue, digestive problems, skin infections, anaemia, liver inflammation and kidney problems (The AIDS Manual, pg 41).

5. Discuss the biomedical disease concept of the chosen disease including latest research
Acquired immunodeficiency syndrome (AIDS) is a collection of symptoms and infections resulting from the specific damage to the immune system caused by the human immunodeficiency virus (HIV) in humans. The late stage of the condition leaves individuals susceptible to opportunistic infections and tumors. HIV can live in the body for years without causing obvious damage, although the virus is constantly replicating.

HIV is transmitted through direct contact of a mucous membrane or the bloodstream with a bodily fluid containing HIV, such as blood, semen, vaginal fluid, preseminal fluid, and breast milk. This transmission can come in the form of penetrative or oral sex, blood transfusion, contaminated hypodermic needles, exchange between mother and baby during pregnancy, childbirth, or breastfeeding, or other exposure to one of the above bodily fluids. Other modes of transmission, such as insect bites or casual contact, although having some biological plausibility, have never been confirmed to have occurred, and can effectively be ignored from the point of view of both a public health policy and individual practice (World Health Organisation, 2008).

HIV is an uncommon type of virus called a retrovirus, and drugs developed to disrupt the action of HIV are known as antiretrovirals or ARVs. These come in a variety of formulations designed to act on different stages of the life-cycle of HIV. However, the AIDS virus mutates rapidly, which makes it extremely skilful at developing resistance to drugs. To minimise this risk, people with HIV are generally treated with a combination of ARVs that attack the virus on several fronts at once (JM Kaldor; pg 11).
The introduction of ARVs in 1996 transformed the treatment of HIV and AIDS, improving the quality and greatly prolonging the lives of many infected people in places where the drugs are available. Nevertheless, ARVs are not a cure. If treatment is discontinued the virus becomes active again, so a person on ARVs must take them for life.

Although the price of ARVs has fallen significantly in recent years, their cost

remains an obstacle to access in the developing world. Moreover, the health infrastructure required to deliver antiretroviral therapy is lacking in many places. Of the estimated 6.5 million people in need of antiretroviral treatment, in June 2006, 1.65 million people were reported to have had access to ARV treatment in low- and middle-income countries(UNAIDS, 2007) . Access to drugs depends not only on financial and human resources, but also on people who need them being aware of their HIV status, knowledgeable about treatment, and empowered to seek it. Thus public information and education are important elements in widening access, alongside efforts to build or strengthen the health services.

The medical management of HIV infection may be considered in stages that are defined by the patient′s degree of immunodeficiency. During the course of HIV infection management, the patient must also undergo counselling, liasion with support groups, improvement in personal health and lifestyle, and education on the prevention of transmission.
Recommendations regarding the use of antiviral drugs are changeable. When and what to initiate, when to change regimens, and how to minimise the development of resistance and cross-resistance and continually being re-evaluated. The concept of single therapy generally results in disease resistance to the drug as well as reduced efficiency because of the huge viral burden, short viral half-life and the propensity of the disease to mutate. However, the difficulty with multi-drug therapy is that the patient may not fully comply because of the number of pills and adverse effects. The current recommendation is to initiate an individualised triple combination regime made of up the following antiretroviral/reverse transcriptase drugs:

- Nucleoside Analog Reverse Transcriptase Inhibitors (NRTIs)
- Non- Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)
- Protease Inhibitors

When HIV infects a cell, reverse transcriptase copies the viral single stranded RNA genome into a double-stranded viral DNA. The viral DNA is then integrated into the host chromosomal DNA which then allows host cellular processes, such as transcription and translation to reproduce the virus. RTIs block reverse transcriptase's enzymatic function and prevent completion of synthesis of the double-stranded viral DNA thus preventing HIV from multiplying (The AIDS Manual; pg 73 – 75).
7. Complementary medicine disease concept and treatment
At the beginning of the epidemic, little or no treatment was available for people with HIV/AIDS. Although as yet there is no cure, over the last decade researchers have identified a number of drugs that slow progression of the virus as well as therapies to treat the many opportunistic infections that attack people with HIV disease. The key to effective treatment is early detection and intervention.
Some early treatments aim to strengthen the immune system, help patients reduce stress, and maintain good nutritional practices and appropriate

exercise regimens. Many of the alternative therapies described below place significant emphasis on these lifestyle issues. It must be noted here that, as with all chronic health issues, alternative therapies are not designed to be used singularly, but should be used in conjunction with a standardised, biomedical approach under the guidance of a specialist. The primary aim of alternative therapies is to treat the side effects the patient may endure through conventional treatment, and to educate the patient in healthy management. Taking an active role in any disease is an important adjunct to treatment. Consideration of alternative therapies in conjunction with conventional medicine may offer additional opportunities for persons living with HIV/AIDS to be proactively involved in their treatment.

Herbal Medicine & Homoeopathy

The use of plants as medicine is common to many cultures, and a number of advanced pharmaceutical drugs were derived from plants. Not just herbalists but naturopaths, homoeopaths, Ayurvedic and Chinese medical practitioners all use herbs as one component in an overall system of medicine. For example, Chinese medicine practitioners may use herbal formulas, acupuncture, meditation, and massage techniques simultaneously. Chinese herbs are frequently used in combination to provide a tonic for general health or to try to fight a specific pathogen or condition. Western herbalism has been used extensively in hopes of improving immune response and reducing symptoms. Aloe vera, St. John's Wort, Echinacea, Licorice, and Ginseng are just a few of the herbs used to treat HIV/AIDS.

Homoeopathic medicines, which include minerals, vitamins, and animal products, are natural substances given in very low doses. Homeopathy is based on the principle that "like cures like," that is, substances that in large doses would cause adverse symptoms will, in small doses, treat those same symptoms. Homeopathy is highly individualised to a patient's symptoms.

Acupuncture

Acupuncture involves the relatively painless insertion of extremely thin needles into the skin at specific points to help balance the body's flow of energy. When needles are inserted into the appropriate points, it is thought that energy is unblocked, and symptoms can be relieved. Variations of acupuncture include acupressure and shiatsu (pressure and massage of acupuncture points). Acupuncture is sometimes used to relieve some HIV-related symptoms such as neuropathy, fatigue, and pain. It is also used in an attempt to strengthen the immune system.

Diet and Nutrition

Persons with inadequate nutrition who are HIV infected have an increased susceptibility to opportunistic infections and a more rapid disease progression. Even when nutritional intake is adequate, an HIV-positive person may lose weight long before the development of AIDS. This happens because, throughout the progression of HIV infection, the patient's nutritional status is challenged by the manifestations of symptoms such as nausea, vomiting, malabsorption, diarrhoea, oral/esophageal problems, and infections that impede fat storage. People with HIV may also develop a lactose intolerance. After HIV infection has progressed to AIDS, malabsorption of nutrients may

become severe. Weight loss can cause a vicious cycle of fatigue, muscle-wasting, and loss of appetite. Nutritionists and dieticians work with people with HIV infection to design diets that provide those nutrients that may be lacking.

Dietary Supplements

Dietary supplements are commonly used in an effort to boost the immune system. Foods or substances derived from foods (garlic, Chinese bitter melon, and turmeric) are also used, as well as nonfood dietary supplements such as shark cartilage or blue-green algae (spirulina). Vitamins, minerals, and amino acids are also used in an attempt to boost the immune system.

Body Work and Massage

Massage is the manipulation of tissues (as by rubbing, stroking, kneading, or tapping) with the hand or an instrument-for remedial or hygienic purposes. Therapeutic massage is not only beneficial in relieving a variety of physical symptoms including chronic pain, but it may also be effective for relaxation and stress reduction. Massage can help people with HIV/AIDS relieve chronic muscle tension and ease the mental and emotional stress that accompany the illness. Body manipulation/massage techniques that are being used to treat HIV/AIDS include acupressure, the Alexander technique, deep muscle therapy, reiki, rolfing, shiatsu, Swedish massage, and therapeutic massage.

Chiropractic medicine is a system of therapeutics that attempts to restore normal function by manipulation and treatment of the body structures, especially those of the vertebral column. Through manipulation, chiropractors may be able to relieve joint stiffness and pain, which are common complaints of HIV/AIDS patients.

Yoga is the practice of an ancient system of breathing exercises, postures, stretching exercises, and meditations based on Ayurvedic medicine and Indian philosophy and religion. The aim of Yoga is to help the individual balance the body's chakras or energy centers. Its practitioners believe that yoga can aid in detoxification, strengthen particular organs, improve stamina, and alleviate chronic fatigue.

Mind-body Therapies

Sometimes called psychoneuroimmunology (PNI), these approaches are based on the concept that the mind or brain can influence the body's ability to fight disease.

Meditation uses deep breathing or other focusing techniques to enable a person to center his or her thoughts. Meditation may be used to reduce tension, fatigue, or anxiety and increase resistance to stress.

Visualisation is the process by which a person is directed to see themselves in some other physical, emotional, or spiritual state. Patients might be guided to imagine themselves in a state of vibrant health and the disease organisms as weak and destructible. Through these mental images, patients might try to direct their immune systems to fight the virus. Other mind-body techniques for people with HIV/AIDS include hypnosis, humor therapy and listening to inspirational or relaxational audiotapes.

8 Conclusion.

As previously outlined, treatment for HIV/AIDS is continual, as are the research development and support programs in Australia. The concept of integrative medicine being applied in chronic disease state treatment programs is slowly becoming more accepted within mainstream medicine, with the advancements in HIV/AIDS treatments in conjunction with the application of integrative therapies becoming more widely used. The aim of integrative therapies is to offer alternative strategies in the maintenance of health - emotionally, mentally and physically- with the aim to minimise side effects from medications, enhance the effectiveness of medication, and extend the duration and quality of lives.

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