**Health Care Crisis**

**HIV/AIDS**

**Introduction**

Acquired Immune Deficiency Syndrome (AIDS) is the deadliest disease of all time. Around 60 billion people are infected with this disease and many people have been died because of this disease. Scientific research indicated that this disease is because of the Human immunodeficiency Virus (HIV) which transmitted from one human to other through sexual intercourse. This virus, when activated in the human body, attacks the human immune system and weakens the resistance power of the body to fight against any illness resulting in death. Many people around the world do not know about their illness or do not have any idea that they have been exposed to this virus. The virus systematically reduces the efficiency of human body until its next and final stage where this it becomes AIDS.

The AIDS is a fatal disease because there is no cure for this illness and scientists are unable to find any treatment for this disease. It acts on the CD4, T-Cells in the human body, these cells are responsible and gave strength to the human body to fight against any disease. The early symptoms of HIV include rapid weight loss, recurring fever and profuse night sweats, extreme tiredness, Diarrhea, and Pneumonia. The only treatment available for this fatal disease is Antiretroviral Therapy (ART) which can minimize the fatalness of the virus and the patient can live longer which is also another reason why this light is prevailing worldwide. An estimated of 9.7 million people from low income and middle-income countries have diagnosed this disease and started the therapy by 2012.

The purpose of this paper is to introduce the disease from its origin and also to compare the strategies to deal with this illness. This paper can be helpful for medical students to engage the primary investigation about how the HIV virus identified in human beings and how it is transmitted into human beings. There is a brief background about the origin of this virus and how this virus was found in Apes. This study also describes the evidence of the scientific research of discovering the origin of the virus and a comparison of the new and old scientific research. HIV is considered to be the deadliest virus because of its rapid progress in human body. There are two kind of kinds, HIV-1 and HIV-2, around 35 million people around the world have been infected with the HIV-1 virus and the number of infected people is growing by each passing day. ART can reduces the rate of HIV effects and the patient can live longer but as the therapy reduce, this virus starts to regrow in the body. So, if a person lineage a therapy, it is necessary to maintain life-long therapy.

**Background**

In early 1980, with the unexplainable deaths of many homosexual men arose the question about illness for which these men have been dying for. During this time, AIDS was first recognized as a disease. Religious activists declared it as the divine punishment against the sinful lifestyle of homosexual men and the disease was initially termed as Gay-Related immunodeficiency disease (GRID) and commonly perceived as “the gay plague”. With this recent developments, homosexual men were not allowed to use any health care facility and they were openly discriminated. As time passes, many women and children were also diagnosed with the same illness clearing that the cause of illness has nothing to do with sexual orientation when in 1983, a virus HIV was identified which causes AIDS.

Researchers discovered that HIV can spread through humans by sexual activity which resulted a chaos among people. The infection was not only the risk, if it is found positive the person have to face very harmful discrimination. Later, scientists and researchers identified a retrovirus which is now termed as Human Immunodeficiency Virus type-1 (HIV-1) as the primary cause of the diseases which on later stages become AIDS and become the most devastating infectious disease of all time. The main cause of HIV-1 is spread through sexual intercourse so AIDS is termed as a sexually transmitted disease. HIV-1 is known as the main M group. This is called the main group because it has infected over 60 million people worldwide and caused 25 million deaths. Antiretroviral treatment can reduce the number of deaths by AICS but effective vaccine and cure for this disease are uncertain until today (Sharp, 2011).

HIV-1 has been a subject of intense study for its emergence and the number of victims who suffered because of this virus. A morphologically similar virus was discovered during the experiments in 1986 in western Africa. This new virus was named as HIV-2. It can say that booth viruses are same but HIV-2 is closely related to the simian viruses found in different species of monkeys. Soon after, a number of additional viruses were identified collectively termed as simian immunodeficiency viruses (SIVs). These viruses were found during the study of infected patients and find their roots to other primates of Africa such as green monkeys, sooty mangabeys, mandrills, chimpanzees and others. Interestingly, the experiments and studies showed that HIV-1 and HIV-2 are close relative to simian viruses found in chimpanzees and sooty mangabeys respectively. Both HIV-1 and HIV-2 found its origin back to the simian viruses which infected the primates in Africa. In 1996, a joint program of UN agencies engaged in response to AIDS and its effects to public health.

The program was named UNAID, it published its first comprehensive research on HIV in 1998 increasing awareness about generalized epidemics of the disease. Many countries started an aid program during that same time, for international aid contributions for low-income countries. The assistance increased from US$ 53.6 billion in 2000 to US$ 61.1 billion in 2003. The purpose of these assistances was to make the world realize that HIV/AIDS is a global issue such as poverty and debt relief. AIDS have been a devastating problem and an unsolved issue in the public health and need clear precautionary measures to decrease its prevalence (Kaminski, 2015).

**Supporting Argument**

Over 35 million people are infected with HIV worldwide and the new infection continues with a steady rate. The number of infected people has been increasing since the discovery of this disease. To find the cure for this deadly disease there are many aspects of following. The scientific research to any problem and issues can be more accurate if the origin of the issues can be understood effectively. AIDS is the most problematic issue of this era. The increasing number of people have made this disease so much dangerous and also at the same time applies duty to the researchers to find ways to deal with this disastrous illness. Some of the supporting arguments are as follows.

**The Ape World**

There are more than 40 different lentiviruses by which Monkeys are infected naturally and are commonly known as simian immunodeficiency viruses (SIVs). These are lentiviruses which can cause infection among various mammalian species including horses, sheep, and other primates. The studies showed that majority of infected host harbor a single type of SIV and later the transmission of this type occur through same species. The scientists provided the evidence of transmission of SIVs between species. There is a million of new generations which become the new SIV linage. HIV is closely related to the virus found in chimpanzees but to study the virus in chimpanzees are is a challenging task (Sharp, 2011).

**HIV-1 and AIDS**

The major cause of AIDS in human is because of the virus HIV-1. This virus is closely related to the simian immunodeficiency virus infecting wild-living chimpanzees and gorillas in west central Africa. Chimpanzees are the original host of this virus and four lineages of HIV-1 have cross-species transmission to humans. One or two of that transmission may have occurred through gorillas indicating the origin of the HIV-1. Chimpanzees acquired two distinct SIVs from monkeys that recombined and produce another virus of different genome structure. This SIV infects the cell system and causes CD4, T-Cell depletion in wild chimpanzees. HIV-1 considered as the most disastrous virus ever. It has the same action as SIV has in chimpanzees, it starts its attack on T-Cells and start breaking down the immune system and eventually causes death (Sharp, 2010).

**Cure and Treatments**

Approximately 60% of the HIV-infected individual do not know about their illness and the fear of discrimination and continue threats have made this disease an unsolved worldwide phenomenon. The cure for this illness has not been recommended because there is no vaccine that can prevent the infections which cause the weak immune system and T cells. Antiretroviral therapy (ART) can control viremia in all HIV-1 infected people and partially restore primary host cells but this therapy is failed to eliminate the HIV-1 from infected cells. The therapy is not universal because of its limitations. The failure to manage the treatment for this disease has made this virus more deadly and the person who is positive for HIV will have this disease for the rest of his life. Experiments showed that ART when stopped at a person, HIV virus acts more rapidly than its first attack. It can do more damage once it starts its action again in human body (Sharp, 2010).

**Opposing Argument**

The primary virus that infects the human beings is Human Immunodeficiency Virus type-1 (HIV-1). It is transmitted through the sexual activity and once it is transferred and activated in a human body the first attack of this virus is on the immune system of the body. This attack weakens the human efficiency and also weakens the resistance power against the diseases including flu, fever, and others that can be maintained by resistance power of the human immune system. There are many arguments about how the virus infected the humans and what the origin of the virus is. Some arguments which differ from most of the research studies are followed as:

**Monkeys not Chimpanzees**

The most recent studies showed that the simian immunodeficiency virus (SIV) in chimpanzees which is believed to be transmitted to human as HIV-1, did not start its life in chimpanzees. Researchers believed that the virus in chimpanzees is hybrid of two different SIVs from two different naturally infected monkeys, the red-capped mangabeys, and the greater spot-nosed monkeys. The researchers also believed that chimpanzees eat monkeys and that is how the hybrid virus spread through chimpanzees from monkeys and later it transmitted through the human in the form of HIV-1. The study shows striking evidence comparing the virus in chimpanzees and virus in humans. Like chimpanzees, human also acquires virus from two different sources one virus is HIV-1 which is fatal and dangerous and other is HIV-2 which is less virulent (Lovgern, 2003).

**SIV to HIV-1**

In 1999, a team of scientist discovered that HIV-1 is a virus that is transmitted from Chimpanzees to human. The virus that chimpanzees have before they transmitted it to humans is SIVcpz. But there was no proof that how chimpanzees acquire the virus in the first place. SIVs viruses are found in many monkeys throughout Africa. SIVs are carried by many species of Monkeys in Africa but it was believed that chimpanzees were naturally infected by the virus while monkeys have been carrying the virus a long time ago. The scientists concluded that SIVcpz in chimpanzees is developed through repeated transmission and also with the recombination of the viruses from red-capped monkeys and greater spot-nosed monkeys. Chimapnasses eat both species and their ranges and that is how they have developed this virus in themselves. In humans, HIV is a combination of the viruses that have been transmitted from red-capped monkeys and greater spot-nosed monkeys (Lovgern, 2003).

**Treatment as Prevention**

Experiments and study show that initiation of antiretroviral therapy (ATR) reduces the incident rate of HIV virus. The ATR is effective in a way that it reduces morbidity and mortality and if the therapy continues then it can also eliminate the HIV symptoms from the human body. In the sight of recent studies, US government has advised of initiation of ART regardless of the CD4 cell count. World Health Organization (WHO) has also advised the initiation of ART to prevent the virus from prevailing. The investigators have indicated that there may not be the treatment of AIDS but HIV virus can be prevented from prevailing if the therapy is started in time. If the treatment is started early enough the saving the life of the HIV infected can be equal to the non-infected HIV individual. One of the most significant matter arises as for saving the infected individual. As, the therapy is continued and the infected person lived his days, the virus is still in his gene and there is a possibility that it can propagates through that individual (Sigaloff, 2014).

**Conclusion**

Although these are some aspects that define the scientific research and study how the disease propagates and the complexities on how the virus was discovered. The disease is fatal and until now, there is no proper treatment for this disease. It is believed by the scientists that with the encroachment of nature by humans increases the spread of infectious diseases. The prevalence of virus from chimpanzees to human is an example of this phenomena. The SIVcpz from chimpanzees to human likely occurred when human butchered chimpanzees for the meat which humans are doing for centuries long. The virus was first identified by the scientist in 1990 but recent investigation has begun to understand the complexities, origin, geographic distribution and natural history of the virus. There is no biological study or evidence if the virus and the study of the nature of the virus and how it is transmitted to humans. The scientists believed that the virus may have processed through an adaptive change before it spread human population but there is no proof for that either.

The similarities between human and chimpanzees and the similarities between SIVcpz and HIV-1 can be the milestone for the scientist to predict the actual treatment of this deadly disease. Gene sequences of human and chimpanzees differ each other typically less than 2 percent. The biggest reason for prevailing of this disease is the human population. The increased human population has increased the chances of virus propagating through humans. It is possible that the virus has been transmitted to human centuries ago but it never established the connection for a large outbreak until the wide range of humans.

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