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## AIDS and dementia

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## AIDS and dementia

### Abstract

The origin of AIDS (acquired immune deficiency syndrome) is unknown. AIDS was first recognized in the United States in 1981. Since 1981, AIDS has spread rapidly throughout the country. Initially, cases of AIDS were confined to New York, San Francisco and Los Angeles (Harris County Medical Society, 1987). AIDS is a disease caused by a virus that destroys an individual's defenses against infections (United States Department of Education, 1987). It is essentially a disease of the immune system (Check, 1988). The AIDS virus, known as Human Immunodeficiency Virus, or HIV can so weaken an individual's immune system that he or she cannot fight off even mild infections and eventually becomes vulnerable to life-threatening infections and cancers (United States Department of Education, 1987).

AIDS AND DEMENTIA

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by

Mari Lagerstrom

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The origin of AIDS (acquired immune deficiency syndrome) is unknown. AIDS was first recognized in the United States in 1981. Since 1981, AIDS has spread rapidly throughout the country. Initially, cases of AIDS were confined to New York, San Francisco and Los Angeles (Harris County Medical Society, 1987).

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According to the United States Department of Education (1987) by 1981, doctors had identified 266 people with AIDS (United States Department of Education, 1987). Since under-reporting of the disease has occurred; the Centers for Disease Control (CDC) has estimated that the actual number of AIDS

cases is about ten percent higher than the number actually identified.

According to the Iowa Department of Health, there have been 146 people diagnosed in Iowa with AIDS as of July 31, 1989. Nationwide, as of July 31, 1989, 99,839 people have been diagnosed with AIDS. Half of these people have died. These numbers represent the actual cases of AIDS, not those that are HIV positive. These numbers reflect individuals that have been diagnosed since 1983 when documentation began. The CDC estimates that by 1993, 450,000 cases of AIDS will have been diagnosed. The AIDS virus is not choosy about whom it attacks.

It is important to remember that AIDS represents the end-stage disease caused by the virus. The CDC currently estimates that approximately 1.5 million people in the United States are infected with the AIDS virus. Thirty percent of those infected will develop full-blown AIDS. To date, fifty-six percent of all reported AIDS cases in the United States have resulted in death ("Zidovudine Studies," 1989).

### The Virus

The Harris County Medical Society (1987) states AIDS is a disease caused by a virus; the virus breaks down the body's immune system, leaving the person defenseless against a variety of unusual life-threatening illnesses. The immune system normally provides an individual with the weapons needed to win constant battles with invading viruses, bacteria and other organisms. Most of the attacks of invading organisms are detected and destroyed with ease.

Occasionally, a cold or flu bug will make it past the body's first defense. This first defense is the antibodies. Antibodies recognize certain proteins on the viruses, called antigens, and attack to kill the viruses. If there are too many viruses or if the antibodies don't recognize the viruses, the individual becomes ill. When the antibodies fail to destroy the virus, the immune system releases white blood cells which seek out the infected cells.

According to the Harris County Medical Society (1987), the AIDS virus acts differently than other invading viruses. The AIDS virus attacks the cells that normally protect the individual. The virus

turns the white blood cells into factories for making more viruses. Once a cell is taken over, it fills with thousands of AIDS viruses, dies and releases those viruses, which attack more white blood cells. After a period of time, the defense system is weakened and certain infections and conditions that can normally be fought off take advantage of this weakness.

### Symptoms

An individual infected with the AIDS virus may experience a wide range of symptoms. These symptoms may include chronic episodes of fever, night sweats, diarrhea, weight loss, fatigue, swollen lymph glands, skin rashes and neurologic disorders. The neurologic disorders may include: memory loss, partial paralysis and loss of coordination.

Pneumonia, cancers and other illnesses, many of which are otherwise rare, may develop as a result of the damage done to the immune system by the AIDS virus. These illnesses are serious and are extremely difficult to cure, not to mention recurrent. According to the United States Department of



Education (1987), many patients die within two years of the appearance of the disease. Individuals infected with the AIDS virus have developed symptoms of AIDS as early as four months or as late as eight or more years after becoming infected (United States Department of Education, 1987).

### Transmission

The AIDS virus is transmitted through the exchange of infected body fluids. The AIDS virus can be transmitted by sexual contact (vaginal or anal), blood contamination, and by mother to child.

Transmission can occur between a man and a woman, a man and another man, or a woman and another woman. Although transmission between women is considered extremely rare, it is possible that the virus may be passed during oral/genital sex and oral/anal sex. Anal intercourse is the most dangerous behavior as invisible tears may occur in the tissue of the rectum, allowing the virus to enter the bloodstream directly. Although it is not as common, the same may occur in the vagina.

The most common method of contamination by blood is the sharing of needles for intravenous drug abuse.

It is also possible to pass the virus through tattoo needles or shaving razors. The common element in all of these is the passing of the blood of an infected person directly into the bloodstream of another person.

Transmission of the virus may also occur during blood transfusions. All blood donations in the United States have been screened for HIV-antibodies since March 1985. The chance of contracting the AIDS virus through a blood transfusion is very unlikely.

The AIDS virus can also be transmitted by an infected woman during pregnancy or during birth. The infected mother may also pass the virus to her child during breastfeeding. According to Nichols (1989), more than 1,100 children under the age of thirteen have been diagnosed with AIDS, and more than half of them have died. The majority of children with maternally transmitted HIV infections develop symptoms within the first two year of life (Nichols, 1989).

In review, AIDS is a deadly but fragile virus. The virus is unable to survive outside the body for any length of time and can be destroyed outside the

body with household bleach. Lastly, the AIDS virus cannot be contracted through casual contact. In other words, AIDS cannot be contracted through touching, social kissing, coughing, sneezing, water fountains, toilet seats, telephone or public swimming pools.

### Treatment

According to the United States Department of Education (1987), there is no vaccine to prevent people from becoming infected with the AIDS virus. Many of the illnesses caused by the AIDS virus are treatable, but the AIDS virus itself cannot be treated. The AIDS virus will ultimately lead to illnesses that prove fatal.

During an interview with Angie Turner-Elliott, Chairperson, AIDS Coalition of Northeast Iowa, in August 1989, she stated AZT (azidothymidine) may prolong the patient's life up to eighteen months and possibly improve the quality of life of the patients. In order for the AIDS virus to take advantage of the cell's synthetic ability, the RNA genetic material may be transformed into DNA genetic material. According to Check (1988), AZT works by preventing

the AIDS virus from changing its RNA to DNA. AZT is extremely expensive; the patient cost per year is approximately \$10,000 ("Burroughs Wellcome," 1987).

#### Dementia

A person with AIDS often experiences AIDS dementia complex during the late stages of the disease. AIDS dementia complex is a neurological syndrome characterized by abnormalities in cognition, motor performance and behavior (Price et al. 1988). Dementia can be operationally defined as an acquired persistent impairment of intellectual function with compromise in at least three spheres of mental activity. According to Buckingham and Van Gorp (1988), the spheres of mental activity include language, memory, visuospatial skills, emotions or personality and cognition.

AIDS dementia complex is attributed to the direct effect of the HIV virus on the brain rather than opportunistic infections (Price et al. 1988). Buckingham and Van Gorp (1988) stated that initially AIDS dementia was caused by viral encephalitis or encephalopathy resulting from the herpes virus. According to Buckingham and Van Gorp (1988), it has

been generally accepted that AIDS dementia complex is caused by direct infiltration of the HIV virus into the brain tissue. Evidence clearly indicates that the AIDS virus can enter the central nervous system quite early, even before the individual is showing any signs of opportunistic infections (Makulowich, 1988). Therefore, AIDS patients may develop dementia and AIDS-related psychiatric disorders before other symptoms appear. Buckingham and Van Gorp (1988) estimate that more than half of the people with AIDS will at some time be diagnosed with central nervous system dysfunction resulting from HIV infiltration of the brain structures. Upon clinical examination, Buckingham and Van Gorp (1988) found the most common behavioral symptoms noted were apathy, social withdrawal and emotional blunting. Evidence indicates that the majority of AIDS patients will have cognitive impairment at some point during their illness.

Many AIDS patients have secondary illnesses such as toxoplasmosis or lymphoma that affect the central nervous system (Buckingham & Van Gorp, 1988). It is believed, however, that direct infiltration by the

HIV virus is responsible for the progressive dementia in AIDS patients. AIDS patients often experience delirium, an abrupt change in mental status which is characterized by striking inattentiveness, confusion, variable level of alertness or arousal, incoherent speech, hallucinations and delusions (Buckingham & Van Gorp, 1988). This condition is an acute disorder caused by an underlying physical abnormality that can be corrected; it does not fall into the dementia category. Buckingham and Van Gorp (1988) described dementia as a persistent disturbance, whereas delirium most often is not.

As stated earlier, AIDS-related dementia manifests itself in characteristic patterns of disturbance in a number of areas--attention, intelligence, language, memory, visuospatial skills, reasoning, motor abilities and personality. Each of these will be explained in subsequent paragraphs.

### Attention

According to Buckingham and Van Gorp (1988), a patient with AIDS-related dementia may be slightly distractable and inattentive. It is not uncommon for the individual to complain of difficulty in directing

attention on a single subject as well as experiencing difficulty with concentration items. The individual may frequently lose track of conversations or his or her train of thought. The individual may even report a slowness in his or her thinking. Daily tasks will eventually become more difficult and take longer for the patient to complete.

### Intelligence

Buckingham and Van Gorp (1988) report overall intellectual abilities are well preserved in AIDS-related dementia. Formal testing may not reveal any serious drop in intelligence until the dementia has advanced significantly. Due to motor slowing, timed items on a formal test may result in lower scores because of penalties for slow performance.

### Language

Language functions are again generally well preserved in AIDS-related dementia. Language functions in AIDS patients who have early dementia may exhibit no obvious language abnormalities. The individual's speech, however, may be slower than usual. The patient may also have difficulty articulating words properly and the volume of the

voice may be lower than normal (Buckingham & Van Gorp, 1988).

### Memory

An individual with AIDS-related dementia exhibits patterns of forgetfulness. Buckingham and Van Gorp (1988) found that during this time the individual has difficulty recalling previous information.

### Visuospatial Skills

An individual with AIDS-related dementia, according to Buckingham and Van Gorp (1988), experiences serious visuospatial deficits. The individual may have difficulty navigating or copying complex figures. An AIDS patient may report getting lost easily or becoming frustrated while driving because he or she cannot follow a map properly.

### Reasoning

Buckingham and Van Gorp (1988) found individuals who suffer from AIDS-related dementia may experience difficulty with tests of abstract thinking. The AIDS patient in the early stages of dementia will give concrete responses or will be unable to interpret abstract proverbs correctly. The individual may also



experience difficulty with a series of instructions or a multistep project.

### Motor Abilities

It is not uncommon for an AIDS patient to report being clumsy and uncoordinated. Individuals with AIDS-related dementia often experience gait and other motor abnormalities. It is important to recognize that this may also indicate further motor system involvement and indicate the need for medical investigation (Buckingham and Van Gorp, 1988).

### Personality

Buckingham and Van Gorp (1988) report the incidence of depression in patients who have AIDS-related dementia is very common. AIDS patients with early dementia may commonly experience a mood or affective disturbance. Behavioral changes in AIDS patients may include apathy, social withdrawal and emotional blunting.

In summary, in the early stages of the illness, patients may perform remarkably well on tests of mental status although their responses are often slow (Rosenblum, Levy, & Bredesen, 1988). According to Rosenblum et al. (1988), slowing remains a prominent

component as patients often appear apathetic, have poor eyesight and are indifferent to their illness. AIDS Alert ("Mental Changes," 1987) reports AIDS may progress more quickly in patients with dementia; a patient's average survival time once dementia develops is four to five months.

At the end stage of AIDS dementia, the patient is nearly vegetative and has little meaningful contact with the environment. According to Rosenblum et al. (1988), the patient will lie in bed with a vacant stare, incontinent and unable to walk.

#### Summary

Since many AIDS patients complain of impaired mood or thinking, health care workers need to be educated about early mental status abnormalities. Many of these patients may show no symptoms of physical disease and may be referred with an incorrect initial diagnosis of depression or some other psychiatric abnormality (Buckingham & Van Gorp, 1988). This could occur if the patient's presenting problem is one of apathy, social withdrawal or blunted affect.

Many factors may impede the professional's ability to detect dementia. Initially, the only abnormalities that may be evident in an intake interview may be behavioral and affective changes such as apathy, psychomotor slowing, mood disturbance and withdrawal. At this time there may not be signs of language disturbance, amnesia or other dementia processes. Medical tests may also appear normal at this point.

On the basis of these findings, the patient's abnormal behavioral and affective presentation may be attributed to acute adjustment reaction. The complexity of these diagnoses is very apparent. Although the diagnosis is complex, the difference is crucial. Disorders that are a result of situational factors may respond to treatment, while dementia from central nervous impairment may not respond and will require different interventions.

On the other hand, misdiagnosing a patient as demented when he or she is experiencing an adjustment reaction or depression can be devastating to the individual, family members and friends. Finally, offering hope that the problem is merely depression

when the problem is the result of brain pathology may cause further devastation for individual, family members and friends. To be effective, therapists must be knowledgeable about AIDS and cognitive disabilities in general.

### Counseling Implications

As with any terminal illness, AIDS patients tend to use coping mechanisms consistent with those previously employed, based on the individual personality styles (State of Wisconsin, 1986). A four-stage reaction process can be conceptualized with the first stage being one of shock, numbness and disbelief. Even if the diagnosis was expected, patients generally experience this initial reaction. Crisis intervention may be necessary in order to help the individual gain control over his or her life (State of Wisconsin, 1986). The severity of the psycho-social stress of this stage will depend upon the existing support system. At this point, the counselor needs to follow the patient's lead except in life-threatening situations.

It is not unusual for an AIDS patient to experience a loss of power or control due to doctors,

nurses and hospital routines (Hay, 1988). As a counselor, it is extremely important to allow the AIDS patient to maintain as much control over his or her life as possible.

During the second stage, the patient experiences denial. During this time the patient attempts to ignore or forget the diagnosis. At this point the patient may begin to demonstrate self-destructive behavior such as drug or alcohol abuse or indiscriminate sexual exploits. This stage may last until the symptoms of the illness can no longer be ignored (State of Wisconsin, 1986). It is essential for counselors to recognize this stage to prevent abandoning clients that appear noncompliant or indifferent about their illness.

By the third stage, denial breaks down and bargaining often occurs. The patient may now be ready to face the reality of the diagnosis and begin to work on problems created by the illness.

Depending on the individual's personality, he or she will actively fight the disease or give up and accept the reality of death. During the final stage, acceptance, the client may begin to accept the

limitations imposed by the illness. This can lead to a sense of peace and resolution for some patients. During this final stage, the client begins to prepare for death. This is generally accomplished by withdrawing appropriately from family and friends.

Not all patients experience each of the stages in the same sequence. As with any terminal illness, a change in the patient's condition may facilitate a regression or progression to any of the stages (State of Wisconsin, 1986).

During this time it is also important to consider the psycho-social needs of family members and significant others. Group therapy for AIDS patients, families and significant others can be very beneficial. According to AIDS Alert ("Group Therapy," 1988), it is extremely important to put people with similar problems together. Participants can be divided into groups for those that are HIV positive and into family/significant others groups. Each group has different issues that can be addressed most effectively with others that are also experiencing a similar situation.

Group needs also vary. Family members and significant others typically concentrate on education that can improve the patient's quality of life. On the other hand, the HIV positive group may discuss nutrition, avoiding infection and maintaining a good attitude ("Group Therapy," 1988).

Group therapy can provide a safe atmosphere in which AIDS patients, family members and significant others may ventilate their frustrations and fears (Taylor & Lavalley, 1989). In return, the group will be able to provide support and validation of the feelings expressed.

#### Conclusions

After reviewing the resources used in this paper, it is apparent the medical and counseling professions have much to learn about the disease and its effect on the brain. New information is continually being released as researchers study various aspects of the AIDS virus and as new medications are approved for clinical testing.

As the number of individuals infected with the AIDS virus increases, so will the need for mental health professionals. HIV positive individuals,

family members, and significant others may require crisis intervention in order to regain control over their lives. Mental health professionals must be knowledgeable about the disease and the manner in which it manifests itself in order to be effective as counselors. As new strains of the AIDS virus are discovered and begin to infect the general public, continuing education will be a necessity for mental health professionals.

At this time, there is no accurate indication of the number of infected persons. Many authorities predict the number will increase dramatically. Continued intensive research is required until this disease has an effective vaccine to control it. The current hysteria can be compared to previous diseases such as polio, German measles and mumps.



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