’HIV Is Like Diabetes’? Or So They Say

How much sense does the common comparison between HIV and diabetes actually make?

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“HIV is like diabetes.” This parallel has been drawn so many times during the modern era of combination antiretroviral (ARV) treatment that it’s easy to accept it as a simple truth.

“I can understand that people want to think about HIV more as a chronic illness now,” says Janet Lo, MD, an assistant professor of medicine at Harvard Medical School who specializes in endocrine disorders like diabetes in people with HIV. “Diabetes is also a chronic illness.”

Indeed, the adage is meant to underline how effective treatments have transformed HIV from an almost invariably fatal infection into a disease as manageable as diabetes.

But looking more deeply into the comparison, how apt is it really?

How do you get either disease?

Perhaps most obviously, HIV is an infectious disease and diabetes is not. Type 1 diabetes is an autoimmune disorder in which the body fails to produce insulin, which regulates blood sugar. This can lead to dangerous levels of sugar in the blood. Type 2 diabetics’ bodies don’t produce enough insulin or don’t use it effectively enough to properly deliver sugar into cells.

Parents can certainly pass on to their children risk factors that may predispose them to developing either form of diabetes. And families may also increase children’s likelihood of becoming diabetic, whether during childhood or later in life, by ingraining the unhealthy eating habits that may contribute to the onset of type 2 diabetes. But diabetics can’t directly infect someone else with the disease like HIV-positive people can with the virus. (Of course, those who have an undetectable viral load are much less likely to transmit HIV; in fact, transmission may be impossible when the virus is fully suppressed.)

Prevalence, Diagnosis Rates

About 29 million Americans have diabetes. Ninety to 95 percent of adults with diabetes have type 2. An estimated 28 percent of diabetic Americans are undiagnosed.

Approximately 1.2 million Americans are living with HIV, with 14 percent of them unaware of their HIV status.

Stigma

HIV is a highly stigmatized disease, in no small part because of the general public's fear—sometimes completely irrational—of contracting HIV from others. Diabetes comes with no such threat of person-to-person transmission. Potential sexual or romantic partners are very unlikely to discriminate based on whether someone is a diabetic as they often do over HIV status.

Society may stigmatize personal habits that can give rise to type 2 diabetes, such as having an unhealthy diet and a sedentary lifestyle. However, this type of scorn is nothing compared to the shame often impressed upon people who contract HIV as a result of highly stigmatized behaviors, such as sex between men, injection drug use, sex while high on drugs, extramarital sex, sex outside of a monogamous relationship, and condomless intercourse. (See Candace Cameron Bure's recent interrogation of Danny Pintauro on The View about how he contracted HIV, in which she demanded of her fellow former child star, "Do you take responsibility for your actions?")

Manageable diseases

Before the discovery of insulin in the early 1920s, diabetes was a highly fatal disease, just as HIV was before the advent of combination ARV treatment in the mid-1990s.

"Now we have great treatments" for diabetes, says Lo. "So people can keep their diabetes under control and are able to live longer lives. They do, however, have to completely change their lifestyle around once they're diagnosed."

While many people with HIV only have to take one pill once a day to treat the virus, people with type 1 diabetes rely on the onerous process of self-administering regular injections of insulin to survive, often multiple times a day. Or they may be on an insulin pump. Type 1 diabetics must monitor their blood sugar levels throughout the day.

People with type 2 diabetes may also need insulin or other oral medications, such as metformin, to help regulate their blood sugar levels. Those with milder cases that are well controlled may not need to check their levels very frequently.

For people whose HIV is "under great control without any metabolic complications," Lo says, "they probably don't have to worry about what they're eating as much or how much exercise they're getting. Whereas for a diabetic they have to think about all the carbs they're eating. For some of them, they even have to count carbohydrates. So they have to be very careful with their diet, and they have to be sure they take their medications on time. Especially for those on insulin, it can be very complicated."

Today's HIV treatments, while much less toxic than older ARVs, still carry with them risks of side

effects, including effects on lipids or glucose (fats or sugars) levels in the body, bone density, as well as nausea and diarrhea. Most diabetes treatments are considerably less toxic.

Reversible? Curable?

For some people with type 2 diabetes, a healthy diet and regular exercise can control the condition, with no need for extra medications. Those with milder type 2 cases may actually send the disease into a full retreat with these lifestyle changes alone.

People with HIV are not so fortunate. Except for a small proportion of so-called elite controllers, whose immune systems are apparently able to control the virus without medications, HIV-positive people count on a daily regimen of ARVs to keep HIV disease from advancing, and ultimately to keep them alive. Out of 78 million people worldwide who have ever lived with the virus (35 million HIV-positive people are currently living), only one has ever been cured. Currently, a small handful of HIV-positive people have been experiencing extended periods of what scientists characterized as viral remission after starting treatment within six months of contracting the virus and later stopping ARVs.

Health risks

Diabetes is the seventh leading cause of death in the United States, with 75,000 Americans dying from complications due to the disease annually. The disease can lead to numerous serious health conditions, such as cardiovascular disease, eye problems (including blindness), and kidney disease.

Type 1 diabetes typically shaves 11 years off of life expectancy for men and 13 years for women. Type 2 diabetics have up to a decade shorter lifespan than the general population. However, recent research suggests that people with well-managed type 2 diabetes can live a normal lifespan. Excellent disease management can also help expand life expectancy for type 1 diabetics.

Similarly, a recently published study estimated that young HIV-positive people taking ARVs have a nearly normal life expectancy. Another recent paper found that life expectancy for people with HIV over 50 is steadily increasing, but still falls short of HIV-negative individuals by about seven years. Even people with well-treated HIV still have a raised risk of various cancers, cardiovascular disease, cognitive decline, and various gastrointestinal problems.

For Americans between the ages of 25 and 34, 35 and 44, and 45 and 54, HIV is the respective 8th, 9th and 10th leading cause of death. But HIV is not in the top 10 for Americans across the board. In 1995, the virus was the eighth leading cause of death among all Americans with over 43,000 deaths. Today, about 14,000 people die from HIV-related causes annually.

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