Factors linked to falling in middle-aged women

Thanks to the widespread availability of potent combination anti-HIV therapy (ART) in Canada and other high-income countries, HIV-positive people are living longer and many will likely enter their senior years. However, as HIV-positive people age, they become at increased risk for aging-related complications, just like everyone else. One such complication is falling. Such an unexpected event whereby people lose their balance, slip or trip and land on the floor or ground (sometimes hitting a piece of furniture on the way down) can have serious consequences for some people.

Researchers across the U.S. interviewed 650 middle-aged women at high risk for HIV and 1,412 HIV-positive women about falling in the past six months of their lives. They also collected blood samples for assessment. They found that the rate of falls was similar—about 19% regardless of HIV status. In analysing many factors, researchers therefore confirmed that HIV infection was not a factor linked to an increased risk of falling. Instead, the following factors were associated with an increased risk of falls:

- older age
- currently using marijuana
- problems with memory and thinking clearly (neurocognitive problems)
- injured nerves in the feet, legs and/or hands (peripheral neuropathy)

Study details

The Women’s Interagency HIV Study (WIHS, pronounced wise) is an ongoing study that has been monitoring the health of women with or at high risk for HIV infection. The reason that HIV-negative women are included in WIHS is that these women come from the same communities as HIV-positive participants and serve as a useful comparison when performing lab tests and other assessments. Women recruited to WIHS come from clinics in the following cities:

- Atlanta, Georgia
- Birmingham, Alabama
- Brooklyn, New York
- Bronx, New York
- Chapel Hill, North Carolina
- Chicago, Illinois
- Miami, Florida
- San Francisco, California
- Washington, DC

Over the years, researchers with WIHS have produced many useful reports on the health of women with HIV. A major strength of WIHS is that it recruits women of similar socio-economic backgrounds. In this report we focus on the findings among HIV-positive women.

The average profile of participants upon entering WIHS was as follows:

- age - 48 years; the majority of women (74%) were between the ages of 40 to 59
- 37% had a history of AIDS
- lowest-ever CD4+ count - 274 cells/mm²
- current CD4+ count - almost 600 cells/mm²
- 65% had an undetectable viral load
49% had higher-than-normal blood pressure
19% had type 2 diabetes
12% had hepatitis C virus co-infection
11% had kidney dysfunction

Other health issues:

- 47% were obese
- 21% had injured nerves in their feet, legs and/or hands
- 12% had problems with memory and thinking clearly

Regarding substance use and mental health:

- 38% currently smoked tobacco
- 17% currently used marijuana
- nearly 90% had less than three drinks of alcohol-containing beverages per week
- 32% had symptoms of depression

Use of medicines that affect the brain (referred to as “CNS drugs” by the researchers) was as follows:

- 27% used antidepressants
- 13% used antiseizure drugs
- 12% used sedatives
- 10% used antipsychotics
- 4% used muscle relaxants

**Results—Fear of falling**

When researchers asked HIV-positive women about their fear of falling, they grouped the women’s responses as follows:

- not at all afraid – 62%
- a little – 21%
- quite a bit – 7%
- very much – 10%

Here is the distribution of falls women reported in the past six months:

**No falls**

- HIV positive – 81%
- HIV negative – 82%

**One fall**

- HIV positive – 9%
- HIV negative – 8%

**Two or more falls**

- HIV positive – 9%
- HIV negative – 10%

(Note: Due to rounding, numbers may not total 100%.)

These differences in rates of falls between HIV-positive and HIV-negative women were not statistically significant.

**Risk factors for multiple falls**

Taking many possible factors into account, researchers found that the presence of the following health issues was
linked to an increased risk of falling:

- age 50 to 59 years
- current and past marijuana use
- neurocognitive problems
- injured nerves in the feet, legs and/or hands
- using CNS drugs that affect the brain (the more of these drugs used, the greater the risk of falling)
- type 2 diabetes

The following factors were *not* linked to an increased risk of falling:

- HIV infection
- CD4+ cell count
- viral load
- specific HIV medicines (for instance, efavirenz, sold as Sustiva, Stocrin and in Atripla, is known to cause dizziness and many other side effects that can affect the brain)

**Compare and contrast**

The researchers underscored that about one-third of older HIV-negative people in the U.S. fall each year. Furthermore, they stated that about “10% of these falls [result] in injury that requires medical attention.” In comparison, the researchers noted that “among our 198 participants 60 year or older, about 25% reported [falls] in the prior six months.”

**Bear in mind**

1. Falls and their consequences—in some cases broken bones—are part of a cluster of issues that researchers call “geriatric syndromes.” These are conditions/problems that are relatively common among elderly people. The WIHS team noted that geriatric syndromes are “associated with poor outcomes, including disability, frailty, reduced quality of life, loss of independence and [and increased risk of death].”

As HIV-positive people tend to have reduced bone density, falling may increase their risk of fractures.

2. The WIHS analysis found a connection between the use of drugs that affect the brain and an increased risk of falling. Other studies with HIV-negative elderly people have found that the use of such drugs is also associated with an increased risk of falling.

3. The study was based on participants’ self-reports about falls in the past six months. It is possible that some participants may have underestimated their falls, since some of them had memory problems.

4. It would have been useful if the present study had collected data on other common factors related to falls, such as a history of the following:
   - visual difficulties
   - stroke
   - heart attack
   - the sudden onset of low blood pressure that can occur when a person sits up, stands or suddenly gets out of bed (orthostatic hypotension), resulting in dizziness, blurred vision, light-headedness and loss of consciousness

5. The researchers only analysed information collected about falls that participants could recall occurring in the past six months. WIHS started asking participants about falls in 2014. As time goes by, it would be useful for WIHS to continue to ask about falls and document and monitor any changes that occur over the long term. Such documentation would be useful, as many HIV-positive people are aging.

6. The researchers stated that they identified “a number of modifiable risk factors for falls, including use of multiple CNS active medications and substance use, which could be important areas to target in fall prevention as women age.”
REFERENCE:

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