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Nursing intervention improves quality of life, lowers viral infection among people living with HIV and serious mental illness

Benefits continued a year after intervention ceased

Having trained nurses follow up on medication use with mentally ill patients who are HIV positive was effective both at improving the patients' quality of life and biological markers for the human immunodeficiency virus, according to a new study from researchers at the University of Pennsylvania.

The study is thought to be the first to simultaneously measure psychosocial and biological outcomes in people with serious mental illness and HIV.

The study of 238 Philadelphia patients, published in *AIDS and Behavior* in September, found significant improvements in the health-related quality of life for the patients, who were treated with a regimen that entailed weekly monitoring by community-based advanced practice nurses. The nurses worked for one year with the patients on taking their psychiatric and HIV medications.

The study pointed out that people with serious mental illness are at a heightened risk to contract and transmit HIV. Among people with serious mental illness, the estimated prevalence of HIV ranges from 4 to 23 percent, compared with 0.4 to 0.6 percent in the general population.

The study suggested that it was possible to alter the behavior of these seriously ill patients toward taking their medication, and found the benefits continuing a year after the trial ended.

"We taught people how to adhere to the treatment regimen, and the positive effects of intervention persisted," said Michael B. Blank, lead author of the study and associate professor of psychology in psychiatry at the Center for Mental Health Policy and Services Research in the Perelman School of Medicine at the University of Pennsylvania.

"A fragmented health care delivery system does not provide optimal therapy for patients with combined HIV infection and serious mental illness," said Michael Hennessy, a senior research analyst at the Annenberg Public Policy Center and a co-author of the study. "The study highlights an opportunity for change in the way dually diagnosed patients are treated."

The study tested the effectiveness of PATH+ (Preventing AIDS Through Health for HIV Positive persons), a regimen using advanced practice nurses. Advanced practice nurses have post-bachelor's degree clinical training, often including a master's degree in nursing science. The

study asked about the patients' physical and mental quality of life, as well as testing for biological markers for HIV, in particular viral load and immune function as measured by CD4 count, a type of white blood cell.

To make sure that the patients took their HIV and psychiatric medications, nurses followed up at least once a week in face-to-face meetings with the patients at their homes or a community location of the patients' choosing. The patients were given pillboxes and beeping watches to keep on schedule. Their adherence to the medication regimen was assessed by self-reporting and verified by pill counts. If they failed to take their medications, an escalating series of steps was taken, including using social networks, pagers, and prepaid cellular phones.

Quality of life was measured through questionnaires that asked about mental and physical health. The 128 patients enrolled in the PATH+ program reported significant improvements in mental health compared with the control group of 110 patients.

Both groups reported improvements in physical health. Contrary to expectations, the control group reported feeling better physically than the group with specialized intervention which had actual, measurable health improvements. The researchers suggested that members of the control group may have felt better because of their participation in the trial and the opportunity for self-reflection during assessments. The treated group may have been less sure about their physical health improvement due to the nurses' constant reminders about non-adherence to their medication schedules, the researchers said.

The study, which took place from September 2004 to April 2009, was funded by the National Institute of Nursing Research in the National Institutes of Health.

The article can be found here: <http://link.springer.com/article/10.1007/s10461-013-0606-x>

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