

Sampling America's emotional health

The mental health of the American citizenry is a subject of enduring scientific interest, and at least four major surveys have been conducted during the past 30 years to estimate the rate of psychological dysfunction in the general population. Estimates from those surveys have ranged from a low of 10 percent to a high of over 80 percent. In 1979, the National Institute of Mental Health (NIMH) in Rockville, Md., began the largest and most systematic survey of psychiatric disorders ever—covering 20,000 households in five U.S. cities—and the preliminary findings from three of the sites offer some challenges to psychiatric dogma.

The most surprising report is that the highest rates for most psychiatric disorders were found among young adults—primarily among those between 25 and 44 years old and secondarily among 18 to 24 year-olds. The researchers anticipated that the oldest group (those over 65) would report more illness, having lived more years at risk; but the elderly showed the highest rates only for general intellectual impairment. Most serious psychiatric illnesses—including schizophrenia, panic disorder, obsessive-compulsive disorder, depression, anti-social personality and alcohol dependency—were much more common among younger adults. According to NIMH epidemiologist Darrel A. Regier, a director of the study, these data are difficult to interpret with confidence; they may reflect a sampling bias or the fact that older people fail to report problems more often (perhaps because they forget). However, Regier adds, the data also raise the possibility that a true historical increase in mental illness has taken place over the past few generations.

The scientists also found that the most common problem in American society today is alcohol dependency, which affected one of every seven adults surveyed. This runs contrary to the widely held view that depression is the most prevalent psychological disorder. Phobias, too, were found to be somewhat more common than depression, which ranked third and was diagnosed in about 5 percent of the population. Drug abuse was the fourth most prevalent disorder, and not surprisingly, it was found largely among the 18- to 24-year-olds.

The survey data were gathered from interviews with more than 11,000 adults living in Baltimore, St. Louis, and New Haven, Conn., by researchers at Johns Hopkins University, Washington University and Yale University, respectively. According to the preliminary report (to be published in the ARCHIVES OF GENERAL PSYCHIATRY), the data were remarkably consistent across all three sites. Other findings include:

- Men had slightly higher rates of mental illness than did women, contradicting another common view—that women are more susceptible to emotional illness. The survey only included 15 selected disorders, however, so that the prevalence rates may not accurately reflect the total psychiatric disability in the community, the researchers note. As other studies have suggested, women and men suffer from different disorders. Men were five times as likely to have alcohol problems and antisocial personality, where women were twice as likely to be depressed and reported many more cases of phobia—including agoraphobia. Surprisingly, there was no sex difference in the prevalence of anorexia nervosa, which was very rare among both males and females.
- Blacks and whites had equal overall rates of illness. Blacks had slightly higher rates for drug dependence and phobia; whites had slightly higher rates for anorexia nervosa and depression.
- There was no association between bereavement and depression.
- City dwellers had modestly higher rates of mental illness than did those from rural areas. Those with a college education had modestly lower rates than those without.

Data from an additional 7,000 interviews in Los Angeles and North Carolina, now being compiled, are expected to provide information on distress in Hispanic and rural communities.

Smallpox vaccine assigned new job

The trick to developing a successful vaccine is to come up with something that will make a lasting impression on the immune system without causing the disease itself. Using recombinant DNA technology, researchers have created three new vaccines by coupling genes from hepatitis B, herpes simplex and influenza viruses to the innocuous vaccinia virus.

Vaccinia (cowpox) has been used for nearly 200 years to vaccinate against its chemical cousin, smallpox, and is responsible for the eradication of that disease. The spliced-on genes direct the vaccinia to produce proteins characteristic of the parent virus, and the protein alerts the immune system. When that protein is encountered in an infection, the immune system will go after it and presumably get the virus as well.

The organism reacts as if it is infected “not only by vaccinia, but by, for example, herpes,” Enzo Paoletti of the New York State Department of Health in Albany explains. “So the animal mounts an immunological response in defense against herpes.”

Paoletti and co-worker Dennis Panicali have used vaccinia with genes from each of the three viruses to provoke antibody production in rabbits at a level that, in humans, would protect from disease. And usually lethal doses of herpes failed to kill mice vaccinated with the herpes simplex-vaccinia virus.

The researchers selected an accommodating host—unlike many other virus vaccines, the hardy vaccinia does not need refrigeration and tolerates freeze-drying. It can be administered with a pinprick. And most important for the recombinant DNA technique, the virus has a long DNA molecule capable of incorporating new genes. The researchers have begun work on putting genes from several viruses onto a single vaccinia.

Medicine capsules

- Researchers from the National Institute of Allergy and Infectious Diseases in Bethesda, Md., suggest a new suspect in acquired immune deficiency syndrome (AIDS)—a fungus, never before reported in humans, that produces an immune-suppressing compound. The product is similar to cyclosporin, which is also produced by a fungus. They initially found the fungus in blood from three AIDS victims, but failed to find it in the next four patients tested. The fungus could be a contaminant of the cultured blood, or another of the opportunistic diseases that take advantage of AIDS victims' impaired immune systems, they note in the Oct. 27 NEW ENGLAND JOURNAL OF MEDICINE (NEJM). “More isolations are needed,” they say.
- Lignite fly ash, the most prevalent component of emissions from coal-fueled power plants, has an inhibitory effect on interferon production in monkey cells grown in the laboratory, Centers for Disease Control researchers say in the Oct. 14 MORBIDITY AND MORTALITY WEEKLY REPORT. Its human health hazard is as yet unknown.
- The suspected active role played by the kidney in essential hypertension—high blood pressure with no known cause—has been bolstered by a report in the Oct. 27 NEJM on six kidney transplant recipients. All six received new kidneys after theirs had been rendered non-functional by high blood pressure, and all six achieved normal blood pressure following their operations. The finding, by researchers at the University of Alabama in Birmingham and Yale University in New Haven, Conn., mimics results found in rats.
- Epstein-Barr virus, a herpes virus that causes mononucleosis and is believed to cause Burkitt's lymphoma, has now been linked to a rare form of brain cancer. Scientists from Harvard, Yale, the Centers for Disease Control and the University of Pennsylvania report in the Sept. 29 NEJM finding the virus in central nervous system lymphomas in five patients. They did not find the virus in surrounding brain tissue, indicating, they say, “induction of the lymphoma by Epstein-Barr virus.”