Treatment of Drug Dependence in the Context of Traditional Disease Treatment Models

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In the movie *Traffic,* Michael Douglas, playing the U.S. drug czar, is on a plane with representatives of every imaginable drug and law-enforcement agency in the country. He asks these "fighters" of the drug war, "Where is the treatment expert?" His question is met with silence.

This vignette from a film depicting the country's battle against illegal drugs serves as a pithy and accurate summary of our attitudes toward combating America's drug problem. Politicians and the health insurance industry continue to call for an expanded investment in demand-reduction approaches to reducing drug dependence—that is, prevention and treatment.

Yet government and society remain heavily committed to supply-reduction activities—the military, the police, and prisons. Approximately two-thirds of all federal government spending on drug programs continues to be aimed at reducing the supply. In 1999, according to the Office of National Drug Control Policy, only 31 percent of the total drug budget was for prevention and treatment; this proportion was projected to increase to only 32 percent in 2000 (1). U.S. contributions to "Plan Columbia" alone—the Columbian government's project to address the decades-old Columbian civil war—nearly equal the U.S. government's entire drug treatment budget.

To a great extent, this situation reflects lingering misconceptions and prejudices about the problem of drug dependence and its solutions. In part, it results from a misguided faith in the military and criminal justice systems to solve what is essentially a health problem. However, it also reflects the view of citizens—including many in the medical community—that punishment, not rehabilitation, remains a more appropriate solution to illegal drug abuse. In a study published in *JAMA* in 1998, fewer than a fifth of respondents in a general population survey advocated increased funding for drug treatment (2).

The tendency to punish rather than treat has two interrelated causes. First, this approach often reflects a misperception that drug dependence is a problem of character, not pathology. More important, though, it reflects a widespread belief that treatment of substance use disorders is simply not effective. Even among psychiatrists and other mental health experts, there is often skepticism about how much of a difference drug or alcohol treatment can make.

Our perceptions about the success or failure of treatment are closely related to how we view the disease of drug dependence. If we view it in the same way that we view an acute illness, such as an infectious disease, then we assume that one course of treatment should suffice to correct that illness. If this is the expectation, then it is easy to see why treatment for drug dependence is so readily viewed as a failed approach: few patients go into permanent remission after just one treatment episode.

On the other hand, if we view drug dependence as a chronic problem, then another treatment paradigm—one that may involve multiple treatment episodes without a hope of permanent remission—may be invoked. Under this view of treatment, although we can accept the failure of a single treatment episode to solve the problem permanently, we also may not put much faith in continued treatments as a means of ultimately curing the disease.

Defining drug dependence as either an acute disease or a chronic disease is not entirely correct. When we look at many chronic problems, such as dementia and diabetes, we see illnesses that, with treatment, can at best be maintained at some level of severity. Treatment of most chronic problems is either intended to maintain the same level of functioning of the individual or to slow the rate of deterioration. The prospect of permanent remission is seldom seen as part of the goal of treatment.

Drug dependence is also a chronic disease in the sense that it is long lasting and usually requires multiple treatment episodes and some form of maintenance or aftercare. However, what may distinguish it from other chronic diseases is the possibility that there is a positive trajectory in terms of outcomes. In other words, after repeated treatments, many patients, although not "cured," can remain drug free for the remainder of their lives.

Little solid empirical research exists to test this notion. What we do know is that, after some number of

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treatment episodes, many patients do go into permanent remission. In addition, even without remission, fewer sequelae such as intravenous drug use, criminal activity, and unemployment are witnessed with each successive treatment episode. For example, one recent study that did look specifically at the number of treatment episodes and outcomes among persons with criminal records who were dependent on opiates (3) found a robust relationship between positive outcomes and the number of treatment episodes. The number of treatment episodes was correlated with significant reductions in the number of arrests. In other words, persons who had had more treatment episodes were significantly less likely to be rearrested after the last treatment than were those with fewer treatment episodes. This result held even after other factors, such as age, addiction severity, and history of involvement with the criminal justice system had been taken into account. There is also some evidence that age may play a role in relieving drug dependence—with age, an individual's dopaminergic response diminishes, which suggests that the desire for drugs may also decline (4).

In addition, compliance with treatment is often high, contradicting another belief that persons with addiction do not comply in the same way as do those with other chronic diseases. One study compared average compliance rates for chronic diseases such as diabetes (compliance rate of 30 to 50 percent), hypertension (30 percent), and asthma (30 percent) with rates for addiction treatment and found them to be comparable if not higher (40 percent) (5). In the same study, relapse rates for drug addiction were only 10 to 30 percent, compared with 30 to 50 percent for diabetes, 50 to 60 percent for hypertension, and 60 to 80 percent for asthma. Countering another misconception, the one-year abstinence rates of more than 50 percent among persons treated for alcohol or drug addiction would be envied by many physicians who treat other chronic diseases (6).

How many treatments are required to render a person permanently drug free? Research has not yet answered this question, but the number of treatments needed can vary from a single episode to, more typically, multiple episodes. Each treatment episode might be viewed as a building block that creates the foundation for subsequent improvement or permanent remission. The number of blocks necessary to achieve remission may vary, but each block is another step in the formation of that foundation.

In addition, although a given addiction treatment episode may not lead to permanent remission, the positive effects may be cumulative. Decreased frequency of use of the drug (or other drugs) or improved physical health status (for example, reductions in HIV seropositivity rates or mental health status may be observed. In addition, more distal problems, such as those related to employment or involvement with the criminal justice system, may also be dramatically alleviated, even before a person is completely abstinent.

What are the implications of viewing drug addiction as different from the either the acute or the chronic model? If we accept the idea that treatment is a cumulative process, we do not interpret lack of success after one treatment episode as failure. Rather, we view it as an indication that the course of treatment is incomplete. In addition, instead of simply accepting the idea of never-ending and expensive treatment, as in the traditional chronic care model, we should expect cumulative treatment to lead to continually more positive outcomes with increasing benefits to society in terms of criminal justice, welfare, and health care costs.

At a minimum, more research is required that looks at the relationship between treatment history and outcomes. If, in fact, repeated treatments do yield better outcomes and a greater likelihood of permanent remission, we must view treatment of substance use disorders in a different context. Understanding that this illness is a chronic disease with the potential for a positive trajectory of treatment outcomes would have significant ramifications not only for treatment but also for public attitudes toward the disease and hence financing priorities. ♦

References

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