HHS Public Access

Author manuscript

Alcohol Clin Exp Res. Author manuscript; available in PMC 2021 January 01.

Published in final edited form as:

Alcohol Clin Exp Res. 2020 January ; 44(1): 41–44. doi:10.1111/acer.14246.

Is Addiction Really a Chronic Relapsing Disorder?:

Commentary on Kelly et al. "*HOW MANY RECOVERY ATTEMPTS DOES IT TAKE TO SUCCESSFULLY RESOLVE AN ALCOHOL OR DRUG PROBLEM? ESTIMATES AND CORRELATES FROM A NATIONAL STUDY OF RECOVERING U.S. ADULTS*"

James MacKillop, PhD[1,2]

[1]Peter Boris Centre for Addictions Research, McMaster University/St Joseph's Healthcare Hamilton, 100 West 5th Street, Hamilton, ON L8P 3P2 Canada

[2]Homewood Research Institute, 150 Delhi Street, Riverslea Building, Guelph, ON N1E 6K9, Canada

The most widely used definitions of drug addiction are of the condition having a chronic course that is typically characterized by relapse. The National Institute on Drug Abuse (NIDA), for example, defines addiction as "a chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences" (NIDA, 2019). With regard to alcohol addiction, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) similarly defines alcohol use disorder as "a chronic relapsing brain disease characterized by compulsive alcohol use, loss of control over alcohol intake, and a negative emotional state when not using" (NIAAA, 2019). These definitions imply that once the condition has developed, it will require long-term or permanent clinical management, and that it is inherently and persistently characterized by setbacks in the form of excessive drug use. There is, however, a growing disagreement with describing addiction as canonically being a chronic relapsing condition. These criticisms are on a number of grounds (Cunningham and McCambridge, 2012; Heyman, 2013; Levy, 2013; Peele, 2016), not the least of which is that the definition is incompatible with a growing number of empirical observations about addiction recovery.

One further instance of this is the recent investigation by Kelly et al. (2019) in *Alcoholism: Clinical and Experimental Research*. In this study, a nationally-representative sample of U.S. adults was used to identify more than 2000 individuals who reported successful resolution of a significant alcohol or other drug (AOD) problem. These individuals were assessed for a number of clinical features of their recovery, revealing notably low numbers of recovery attempts to achieve success. Specifically, participants reported an average of five attempts and the average actually appeared to inflate the experience of many participants, as the median was two or three (depending on the analytic approach). In fact, the modal number was one serious attempt and a sizable proportion of individuals reported requiring no serious

Correspondence: James MacKillop, PhD, Peter Boris Centre for Addictions Research, McMaster University/St Joseph's Healthcare Hamilton, 100 West 5th Street, Hamilton, ON L8P 3P2 Canada, jmackill@mcmaster.ca, Telephone: (905) 515-1329.

Disclosures:
JM is a senior scientist and principal in BEAM Diagnostics, Inc.

attempts. In other words, in a large group of individuals who recovered from drug addiction, the vast majority of individuals required five or fewer serious attempts and the most common pathway was one serious recovery attempt. These are much more modest numbers than might be expected for a chronic relapsing condition. Although it is hard to be precise, one might reasonably expect a truly chronic relapsing disorder to require dozens or more treatment attempts (a pattern reported by only a small minority in Kelly et al.'s sample). Put another way, Kelly et al.'s evidence that recovery can typically be achieved in one to three attempts is clearly inconsistent with notion of a chronic relapsing condition.

To be sure, as noted by Kelly et al., there are a number of caveats to these findings. The study was cross-sectional, retrospective, and a number of important definitions were subject to the participant's interpretation (e.g., what constitutes "a serious recovery attempt"). The study focused on individuals who were defined by successful resolution of an AOD problem, meaning individuals who were chronically unable to succeed would not be included. In addition, it is of course possible that the individuals who endorse successful problem resolution may ultimately relapse in the future. Acknowledging these considerations, the findings are nonetheless clearly a further challenge to the notion of chronicity as an essential feature of addiction. Indeed, Kelly et al.'s identification of a sizable cadre of successfully recovered individuals belies the notion of addiction as a chronic relapsing disorder.

Nonetheless, these findings are one more brick in an increasingly large edifice of evidence that addiction is far from always a chronic relapsing disorder. Re-examination of major epidemiological surveys, including the Epidemiological Catchment Area study, the National Comorbidity Study, and the National Epidemiological Study of Alcohol and Related Conditions (NESARC), has found that the remission rates range from 57%-83% (Heyman, 2013), suggesting that remission is actually a very common outcome for addictive disorders. Also using NESARC data, Lopez-Quintero et al. found that the life-time cumulative probability of remission exceeded 80% for nicotine and was at or above 90% for alcohol, cannabis, and cocaine (Lopez-Quintero et al., 2011). There is also extensive evidence that in young adults, for whom AUD has the highest lifetime prevalence (26.7%; Grant et al., 2015), a common course is to naturally "mature out" of problematic alcohol use (Lee and Sher, 2018), absent clinical intervention. In that case, alcohol use disorder appears to have both a developmentally-limited (young adulthood) course and lifecourse-persistent course, akin to Moffit's distinction with regard to delinquent behavior (Moffitt, 1993). Notably, maturing out is not specific to alcohol use disorder and was first observed in the context of opioid use disorder (Winick, 1962). Certainly maturing out of addiction without the need for formal treatment is not consistent with a chronic relapsing definition. Beyond unassisted maturing out in young adults, there is also evidence of natural recovery (i.e., self-directed change without formal treatment) from alcohol use disorder more generally (Dawson et al., 2005; Sobell et al., 1993), again undermining the notion of a chronic relapsing course. Importantly, these findings translate into very large numbers of individuals. In the U.S. alone, 25 million Americans were estimated to currently be in recovery in the recent U.S. Surgeon General's report (Department of Health and Human Services, 2017). Collectively, a sizable body of evidence suggests that, rather than a chronic pattern of relapse, stable remission is a common outcome and may in fact be the most common course.

Problems with defining addiction as a chronic relapsing disorder are readily observable clinically also. We regularly see patients who resonate with treatment, get traction, and fundamentally change their lives in permanent ways. In online recovery registries and at 'Giving Back' weekends, success stories are common. In Alcoholics Anonymous and other mutual support organization meetings, members with years and even decades of abstinence are not hard to find. Clinical counterfactuals to an exclusively chronic relapsing course abound.

So how did this definition become the standard scientific description of addiction? An early use of the chronic relapsing definition was used by Alan Leshner, at that time the Director of NIDA, in a review in *Science* (Leshner, 1997). The article was highly influential and has since been cited more than 1500 times. Defining addiction as a chronic relapsing brain disease was part of an initiative to combat stigma and situate addiction within healthcare with other conditions that often require ongoing behavioral management. Medicalizing addiction by codifying it as a psychiatric diagnosis (i.e., substance use disorder; SUD) moved it further away from the common historical perspective that it is not a clinical condition, but simply a lack of willpower or a moral failing. Of note, however, there does not have to be an either-or binary between a diagnosis and personal weakness; self-regulatory deficits can be understood within a broader framework of normative psychological functioning (Ainslie, 2001). There are also clinical reasons that the definition of addiction as a chronic relapsing disorder persists. Clinicians do see people repeatedly cycle through the system. Some individuals do exhibit a chronic relapsing course, one that can ultimately lead to death. In the same clinical contexts referenced above, there are also many stories of setbacks and challenges to long-term recovery. Cognitive heuristics play a role too. We are more likely to remember more severe cases and individuals who repeatedly fail or ultimately succumb to addiction. In addition, in the case of maturing out or natural recovery, many people's success will never be observed by clinicians. The picture is muddied in other ways also. There is a disconnect between the construct of addiction, clearly connoting compulsion and deficits in self-regulation and the nosological definition of a SUD, which has more than a thousand potential permutations, many of which do not necessarily encompass compulsive drug use. This is particularly the case for the fifth edition of the Diagnostic and Statistical Manual, where only two symptoms are needed for a diagnosis.

More importantly, however, the argument here is not that the chronic relapsing definition is categorically wrong, so much as it is excessively expansive. Addiction may be a chronic relapsing disorder in some cases but it is far from being *only* a chronic relapsing disorder. In many other cases, it is a disorder that requires treatment and, when received, is successfully treated to full remission. As shown in Kelly et al., the vast majority of individuals who successfully achieve recovery do not require dozens or hundreds of treatment attempts to achieve success. They modally reported one serious attempt. For other individuals, addiction recovery may not require formal treatment at all, as in the case of maturing out or natural recovery. Consistent with this, in Kelly et al.'s findings, a notable portion of participants reported that they required zero serious treatment attempts to achieve success, apparently reflecting the natural recovery course.

Beyond simply pointing out that the definition of addiction as a chronic relapsing condition is over-encompassing, this study's findings and others like it raise larger scientific questions. What is the empirical course of addiction recovery? How many people exhibit a chronic relapsing course, one that requires ongoing continuing care with intermittent lapses and relapse, and how many people exhibit a time-limited remitting course, in which the individual effectively permanently recovers from the condition? Are there two courses (chronic relapsing, time-limited remitting) or more variants? In other words, what is the latent structure of addiction recovery? Finally, how do these courses manifest differently? (e.g., treatment-seeking vs. non-treatment-seeking individuals; different symptom permutations, capturing the presence or absence of compulsion; differences in diagnostic severity). A staging approach to clinical severity has been investigated for other psychiatric conditions (Scott et al., 2013) and may be informative about disorder course for addiction also. For example, 'early stage' SUD may be associated with maturing out or natural recovery whereas 'late stage' SUD may in fact have a more chronic course. Fundamentally, there is a need for a fulsome and systematic consideration of how diagnosis relates to clinical prognosis.

Importantly, this is not simply a matter of semantics, as a definition of addiction as a chronic relapsing disorder may actually have iatrogenic effects. If the definition is scientifically inaccurate insofar as it ignores a meaningful number of individuals (by some estimates, the majority) who exhibit courses that are time-limited and/or result in full recovery, a corollary is that describing addiction this way is at least misleading to treatment-seeking individuals. Furthermore, it is entirely plausible that the definition's dire fatalism could actually undermine an individual's motivation. Instillation of hope and positive expectations about treatment efficacy are established common factors for benefit from psychological treatments (Thomas, 2006; Wampold, 2015) and the definition of addiction as a chronic relapsing condition may well reduce hope and diminish a person's expectation that recovery is possible.

Collectively, these accumulating findings suggest at least two things. The first is that any widely-used definition that spans the scientific, clinical, and lay literatures should encompass the reality that addiction is not only a chronic relapsing condition, but has considerable variability in its course and outcome. A working alternative definition could be that drug addiction is a condition characterized by clinically significant impairment or distress resulting from substance use, *with substantial variability in course, ranging from full remission to a chronic relapsing profile*. This definition situates the condition within the purview of medicine and identifies, but critically recognizes the variability in its course. It is by no means perfect, and the field would benefit from an expert consensus definition using a methodologically rigorous approach (e.g., Jorm, 2015). Nonetheless, it illustrates the point that a definition that recognizes the clinical variability of its course can be readily proffered.

The second major implication is the extent to which there are major gaps in our understanding of the clinical course of addiction. A mature science of addiction needs to systematically address the empirical structure of the disorder's clinical trajectory over time. Current perspectives are largely piecemeal and suffer from a 'blind men and the elephant' problem. There are different answers from different vantage points, and a broad and

definitive understanding cannot be gleaned. The answer to the rhetorical question posed in the title is an easy one: no, addiction is not only a chronic relapsing disorder. The study by Kelly et al. is one further piece of evidence demonstrating that is not the case. The harder question is how to scientifically characterize the heterogeneous pathways of recovery and ultimately how to translate those insights into improvements in treatment.

Acknowledgments

Funding:

The authors contributions were partially supported by NIH grant R01 AA024930 and the Peter Boris Chair in Addictions Research.

REFERENCES

National Institute on Drug Abuse (2019) The Science of Drug Use and Addiction: The Basics. Available at: https://www.drugabuse.gov/publications/media-guide/science-drug-use-addiction-basics

Ainslie G (2001) Breakdown of Will. Cambridge University Press.

Cunningham JA, McCambridge J (2012) Is alcohol dependence best viewed as a chronic relapsing disorder? Addiction 107:6–12. [PubMed: 21981681]

Dawson DA, Grant BF, Stinson FS, Chou PS, Huang B, Ruan WJ (2005) Recovery from DSM-IV alcohol dependence: United States, 2001-2002. Addiction 100:281–292. [PubMed: 15733237]

Department of Health U, Services H, of the Surgeon General O (2017) FACING ADDICTION IN AMERICA The Surgeon General's Report on Alcohol, Drugs, and Health.

Grant BF, Goldstein RB, Saha TD, Chou SP, Jung J, Zhang H, Pickering RP, Ruan WJ, Smith SM, Huang B, Hasin DS (2015) Epidemiology of DSM-5 Alcohol Use Disorder: Results From the National Epidemiologic Survey on Alcohol and Related Conditions III. JAMA psychiatry 72:757–66. [PubMed: 26039070]

Heyman GM (2013) Quitting Drugs: Quantitative and Qualitative Features. Annu Rev Clin Psychol 9:29–59. [PubMed: 23330937]

National Institute on Alcohol Abuse and Alcoholism (2019) Alcohol Use Disorder. Available at: https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/alcohol-use-disorders

Jorm AF (2015) Using the Delphi expert consensus method in mental health research. Aust New Zeal J Psychiatry 49:887–897.

Kelly JF, Greene MC, Bergman BG, White WL, Hoeppner BB (2019) How Many Recovery Attempts Does it Take to Successfully Resolve an Alcohol or Drug Problem? Estimates and Correlates From a National Study of Recovering U.S. Adults. Alcohol Clin Exp Res acer.14067.

Lee MR, Sher KJ (2018) "Maturing Out" of Binge and Problem Drinking. Alcohol Res 39:31–42. [PubMed: 30557146]

Leshner AI (1997) Addiction is a brain disease, and it matters. Science 278:45–7. [PubMed: 9311924]

Levy N (2013) Addiction is Not a Brain Disease (and it Matters). Front Psychiatry 4:24. [PubMed: 23596425]

Lopez-Quintero C, Hasin DS, de Los Cobos JP, Pines A, Wang S, Grant BF, Blanco C (2011) Probability and predictors of remission from life-time nicotine, alcohol, cannabis or cocaine dependence: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Addiction 106:657–69. [PubMed: 21077975]

Moffitt TE (1993) Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy. Psychol Rev 100:674–701. [PubMed: 8255953]

Peele S (2016) People Control Their Addictions: No matter how much the "chronic" brain disease model of addiction indicates otherwise, we know that people can quit addictions - with special reference to harm reduction and mindfulness. Addict Behav reports 4:97–101.

Scott J, Leboyer M, Hickie I, Berk M, Kapczinski F, Frank E, Kupfer D, McGorry P (2013) Clinical staging in psychiatry: a cross-cutting model of diagnosis with heuristic and practical value. Br J Psychiatry 202:243–245. [PubMed: 23549937]

Sobell LC, Sobell MB, Toneatto T, Leo GI (1993) What triggers the resolution of alcohol problems without treatment. Alcohol Clin Exp Res 17:217–24. [PubMed: 8488958]

Thomas ML (2006) The Contributing Factors of Change in a Therapeutic Process. Contemp Fam Ther 28:201–210.

Wampold BE (2015) How important are the common factors in psychotherapy? An update. World Psychiatry 14:270–7. [PubMed: 26407772]

Winick C (1962) Maturing out of narcotic addiction. Bull Narc 14:1–7.