

Why should addiction medicine be an attractive field for young physicians?

Michael Soyka^{1,2} & David A. Gorelick³

Psychiatric Hospital, University of Munich, Munich, Germany,¹ Private Hospital Meiringen, Meiringen, Switzerland² and Intramural Research Program, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD, USA³

ABSTRACT

Aims The clinical practice and science of addiction are increasingly active fields, which are attracting professionals from diverse disciplines such as psychology and neurobiology. Our scientific knowledge of the pathophysiology of addiction is rapidly growing, along with the variety of effective treatments available to clinicians. Yet, we believe that the medical specialties of addiction medicine/psychiatry are not attracting the interest and enthusiasm of young physicians. What can be done? **Methods** We offer the opinions of two experienced addiction psychiatrists. **Results** In the US, there has been a decline in the number of psychiatrists seeking training or board certification in addiction psychiatry; about one-third of graduates with such training are not practicing in an addiction psychiatry setting. There is widespread neglect of addiction medicine/psychiatry among the medical profession, academia and national health authorities. This neglect is unfortunate, given the enormous societal costs of addiction (3–5% of the gross domestic product in some developed countries), the substantial unmet need for addiction treatment, and the highly favourable benefit to cost yield (at least 7:1) from treatment. **Conclusions** We believe that addiction medicine/psychiatry can be made more attractive for young physicians. Helpful steps include widening acceptance as a medical specialty or subspecialty, reducing the social stigma against people with substance use disorders, expanding insurance coverage and increasing the low rates of reimbursement for physicians. These steps would be easier to take with broader societal (and political) recognition of substance use disorders as a major cause of premature death, morbidity and economic burden.

Keywords Addiction medicine, addiction psychiatry, profession, specialty, stigma, training, treatment.

Correspondence to: David A. Gorelick, Intramural Research Program, National Institute on Drug Abuse, National Institutes of Health, 251 Bayview Blvd., Baltimore, MD 21224, USA. E-mail: dgorelic@intra.nida.nih.gov

Submitted 4 June 2007; initial review completed 31 July 2007; final version accepted 18 June 2008

INTRODUCTION

This is not primarily a scientifically oriented paper. It is rather a personal comment by two physicians with experience of three decades of substance abuse research, teaching and clinical practice. The term 'addiction' itself, for a long time abandoned mainly by diagnostic manuals and textbooks—although present in many journal titles such as this one—may find a renaissance in DSM-V [1], although perhaps not without controversy [2]. There are different, more or less comprehensive, definitions of addiction which will not be discussed here in detail. Most emphasize that addiction should be managed as a chronic disease and requires an interdisciplinary approach [3]. We understand that addiction medicine or addiction psychiatry are not recognized medical subspecialties in most countries, although there are

encouraging exceptions. The national psychiatric societies in Australia [4] and the United States have addiction psychiatry components (sections or councils) and addiction psychiatry is an officially recognized subspecialty in the United States [5].

We share some concern about a certain lack of interest and enthusiasm of young physicians for this field. Visiting national and international meetings on addiction research leaves us with the impression that the field itself is very active. Numerous new concepts and research perspectives are visible. However, in contrast to the increasing number of psychologists, neurobiologists and others interested in substance use, the number of physicians involved is comparatively low. Although the situation may vary in different countries, our overall impression is that relatively few physicians, especially psychiatrists, are choosing addiction as their primary medical or research

field or maintaining an interest in this area. For example, in the United States there has been a gradual decline in the number of psychiatrists seeking training or board certification in addiction psychiatry [6]. Common reasons given by psychiatric residents for their lack of interest in addiction psychiatry include a perceived lack of training and employment opportunities and poor long-term job security. An earlier US study found that among graduates of addiction psychiatry training programs, only 64% were practising in an addiction psychiatry setting [5]. What are the reasons for this? Is there a cure?

THE CONCEPT OF ADDICTION MEDICINE

The potential role of physicians (especially psychiatrists) in addiction has increased dramatically over recent decades, parallel to an increase of medical knowledge in this area. Addiction is now recognized as a disease in all official diagnostic systems (e.g. ICD-10, DSM-IV) and by major national and international health organizations [e.g. World Health Organization (WHO)]. For relapse prevention, several pharmacological agents have been developed which improve the prognosis and long-term outcome: full and mixed opioid agonists (methadone, buprenorphine) and antagonists (naltrexone) for opioid dependence; disulfiram, acamprosate and naltrexone for alcoholism [7]. The search for other agents, especially for cocaine and amphetamine use [8], is very active. There is increasing hope for more therapeutic options in this field.

The societal costs of lost economic productivity, law enforcement, criminal behavior and disrupted families are high. The total annual cost of addiction to both legal and illegal drugs has been estimated at more than US\$400 billion [around 5% of gross domestic product (GDP)] in the United States [9], more than €30 billion (2.7% of GDP) in France [10], more than €37 billion in Germany [11] and more than CDN\$18 billion (2.7% of GDP) in Canada [12].

However, there is a widespread neglect of addiction medicine—and addiction psychiatry—as an independent discipline. Some physicians, and especially psychiatrists, oppose addiction medicine as a defined medical subspecialty, especially in the academic field. Health authorities in some countries regulate heavily the provision of agonist substitution treatment for addiction (with the common exception of nicotine replacement therapy), but do not acknowledge addiction medicine as a defined subspecialty. The field would benefit dramatically from addiction medicine being accepted as a medical subspecialty. This would hopefully prompt universities and medical schools to increase their activities in the field. There are few chairs for addiction medicine world-wide and the

acceptance of addiction topics in the psychiatric world is notoriously low. Too many psychiatric congresses devote little program time to substance use topics, and often schedule what sessions they do include at early-bird or late-night hours.

No one questions that treatment of child, geriatric or cognitively impaired patients requires specialized training and qualifications. Most medical societies and regulatory authorities have developed defined curricula for geriatrics. There are university chairs, qualifying examinations and specialists who may call themselves 'geriatricians'. The diagnosis and treatment of substance use disorders is by no means less complex than treatment of the elderly. It seems therefore more than justified to ask for specialized training in the addiction field as well.

RESEARCH PERSPECTIVES FOR PHYSICIANS

Young physicians who may consider an academic career must consider: is there enough potential in this field of addiction medicine to warrant entering it? Research prospects are much brighter than many outside the addiction field may think. Unlike other psychiatric disorders such as depression and schizophrenia, there are excellent animal models which allow the study of basic mechanisms of addiction such as craving, withdrawal, tolerance and dependence [13]. The efficacy of new pharmaceutical agents or abuse liability of drugs can be studied in animal models. It is increasingly evident that certain brain regions such as the prefrontal cortex and the limbic system play a substantial role in the development of substance use disorders. We know the major neurotransmitters that are involved in the mediation of psychotropic drug effects—dopamine, glutamate, gamma-aminobutyric acid (GABA), opioid–endorphin and endocannabinoids. Thanks to modern neuroimaging techniques, we can visualize drug effects on neurons or neurotransmitters and study the basic mechanisms underlying drug dependence and craving *in vivo*, even in humans [14]. Advances in genetic methods offer the potential to unravel the genetic contribution to the vulnerability for substance use disorders, even though such disorders are undoubtedly genetically complex [15]. These modern techniques enable the study of the pathophysiology of substance use disorders from gene to cell to brain to organism, offering unparalleled opportunities for young researchers.

Research on the pathophysiology of substance use disorders will also benefit our understanding of so-called behavioral addictions, such as obesity and pathological gambling [16]. Because abnormalities in the biological mechanisms of reward, learning and memory are likely

to be involved, research in addictions is likely to improve understanding of a wider range of behaviors and psychiatric disorders.

Funding for research is available to those who qualify, at least in developed countries. The US National Institute on Drug Abuse spent almost US\$5 billion on research grants from 1996 to 2006 (personal communication, Donna Jones, Budget Office, US National Institute on Drug Abuse). The funding success rate for physician investigators has been comparable to that for non-physician (PhD) investigators for most of this period. From 2000 to 2006, the European Community spent more than €50 billion on drug abuse-related research, treatment and public health projects (<http://www.emcdda.europa.eu>). Estimates of drug control expenditures are difficult to obtain [17].

TREATMENT PERSPECTIVES

We know from many studies that most individuals with substance use disorders are not in treatment. Very few are seen by an addiction medicine specialist. The level of acceptance by general psychiatrists and psychotherapists is low; many refuse to treat patients with addictive disorders at all. The reasons offered include poor compliance, the difficulties of treatment and lack of the special expertise considered necessary. Other barriers to treatment include social stigma, poor or absent insurance coverage and low rates of reimbursement for physicians. The low rates of treatment participation exacerbate the human and societal burden of addiction. Studies in both the United States and United Kingdom show at least a 7 : 1 benefit to cost yield ratio from addiction treatment [18,19], i.e. each dollar (or pound) spent on addiction treatment results in at least 7 dollars-worth of reduced costs from the consequences of addiction.

Despite their high rate of comorbid psychiatric disorders, very few psychiatrists engage in substitution treatment of opioid-dependent patients [20]. Addiction medicine must be accepted as a legitimate medical subspecialty to increase this number.

'RISK MANAGEMENT'

Addiction medicine may, in the future, also serve as a form of 'risk management' arena for new medical approaches, especially in the light of the increased use of 'life-style drugs' or 'life-style habits' such as excessive internet use [21,22]. For example, there is increasing use of psychostimulants in adults with symptoms of attention deficit disorder. Does this use pose a risk of addiction? Who will monitor for these risks and care for any affected individuals? Another example is the use of psychoactive drugs for 'neuroenhancement' in normal individuals, i.e.

the attempt to improve cognitive, emotional or social functioning (even love and marriage) in those without a diagnosable abnormality or disease [23–25]. This effort has been compared to the use of performance-enhancing drugs in sports or to aesthetic cosmetic surgery [26]. Addiction medicine—and addiction psychiatry—have much to say in this area. The scientific training and evidence-based approach of the addiction psychiatrist may help to put some of these 'innovations' into proper perspective.

THE WAY FORWARD

We believe that the concept of addiction medicine can be attractive for many young physicians, including psychiatrists. Support may come from the societal and political levels when substance use disorders have been recognized as a major cause of premature death, morbidity and economic burden. A wider acceptance of addiction medicine as a medical subspecialty may also help to reduce stigma. We would like to open this debate on addiction medicine and addiction psychiatry.

Declarations of interest

None.

Acknowledgement

Dr Gorelick is supported by the Intramural Research Program, US National Institutes of Health, National Institute on Drug Abuse.

References

- O'Brien C. P., Volkow N., Li T. K. What's in a word? Addiction versus dependence in DSM-V. *Am J Psychiatry* 2006; **163**: 764–5.
- Erickson C., Wilcox R. Please, not 'addiction' in DSM-V. *Am J Psychiatry* 2006; **163**: 2015–16.
- McLellan A. T., Lewis D. C., O'Brien C. P., Kleber H. D. Drug dependence, a chronic medical illness: implications for treatment, insurance, and outcomes evaluation. *JAMA* 2000; **284**: 1689–95.
- Lubman D., Jurd S., Baigent M., Krabman P. Putting 'addiction' back into psychiatry: the RANZCP section of addiction psychiatry. *Australas Psychiatry* 2008; **16**: 39–43.
- Tinsley J. A. Workforce information on addiction psychiatry graduates. *Acad Psychiatry* 2004; **28**: 56–9.
- Renner J. A. Jr, Hennessy G., Levin F., Waldbaum M., Eld B. APA addiction psychiatry career survey: Residents' narrative responses. Presented at the American Academy of Addiction Psychiatry annual meeting, December 2006.
- Rosner S., Leucht S., Leher P., Soyka M. Acamprosate supports abstinence, naltrexone prevents excessive drinking: evidence from a meta-analysis with unreported outcomes. *J Psychopharmacol* 2008; **22**: 11–23.

8. Gorelick D. A., Gardner E. L., Xi Z. X. Agents in development for the management of cocaine abuse. *Drugs* 2004; **64**: 1547–73.
9. McGinnis J. M., Foege W. H. Mortality and morbidity attributable to use of addictive substances in the United States. *Proc Assoc Am Physicians* 1999; **111**: 109–18.
10. Fenoglio P., Parel V., Kopp P. The social cost of alcohol, tobacco and illicit drugs in France, 1997. *Eur Addict Res* 2003; **9**: 18–28.
11. Andlin-Sobocki P., Rehm J. Cost of addiction in Europe. *Eur J Neurol* 2005; **12**: 28–33.
12. Single E., Robson L., Xie X., Rehm J. The economic costs of alcohol, tobacco and illicit drugs in Canada, 1992. *Addiction* 1998; **93**: 991–1006.
13. O'Brien C. P., Gardner E. L. Critical assessment of how to study addiction and its treatment: human and non-human animal models. *Pharmacol Ther* 2005; **108**: 18–58.
14. Volkow N. D., Fowler J. S., Wang G. J. The addicted human brain viewed in the light of imaging studies: brain circuits and treatment strategies. *Neuropharmacology* 2004; **47**: 3–13.
15. Uhl G. R. Molecular genetics of addiction vulnerability. *NeuroRx* 2006; **3**: 295–301.
16. Grant J. E., Brewer J. A., Potenza M. N. The neurobiology of substance and behavioral addictions. *CNS Spectr* 2006; **11**: 924–30.
17. Reuter P. What drug policies cost. Estimating government drug policy expenditures. *Addiction* 2006; **101**: 315–22.
18. Ettner S. L., Huang D., Evans E., Ash D. R., Hardy M., Jourabchi M. *et al.* Benefit–cost in the California treatment outcome project: does substance abuse treatment ‘pay for itself’? *Health Serv Res* 2006; **41**: 192–213.
19. Godfrey C., Stewart D., Gossop M. Economic analysis of costs and consequences of the treatment of drug misuse: 2-year outcome data from the National Treatment Outcome Research Study (NTORS). *Addiction* 2004; **99**: 697–707.
20. Soyka M., Apelt S. M., Wittchen H. U. Die unzureichende Beteiligung von Psychiatern an der Substitutionsbehandlung [Insufficient involvement of psychiatrists in substitution treatment]. *Nervenarzt* 2006; **77**: 1368–72.
21. Liu T., Potenza M. N. Problematic internet use: clinical implications. *CNS Spectr* 2007; **12**: 453–66.
22. Dell’Osso B., Altamura A. C., Allen A., Marazziti D., Hollander E. Epidemiologic and clinical updates on impulse control disorders: a critical review. *Eur Arch Psychiatry Clin Neurosci* 2006; **256**: 464–75.
23. Farah M. J., Illes J., Cook-Deegan R., Gardner H., Kandel E., King P. *et al.* Neurocognitive enhancement: what can we do and what should we do? *Nat Rev Neurosci* 2004; **5**: 421–5.
24. Hall W. Feeling ‘better than well’. *EMBO Rep* 2004; **5**: 1105–9.
25. Savulescu J., Sandberg A. Neuroenhancement of love and marriage: the chemicals between us. *Neuroethics* 2008; **1**: 31–44.
26. Chatterjee A. Cosmetic neurology and cosmetic surgery: parallels, predictions, and challenges. *Camb Q Healthcare Ethics* 2007; **16**: 129–37.