

Women, Children and Addiction

Edited by
**Loretta P. Finnegan and
Stephen R. Kandall**



Women, Children and Addiction

Edited by

Loretta P. Finnegan and Stephen R. Kandall

First published 2011
by Routledge
2 Park Square, Milton Park, Abingdon, Oxfordshire OX14 4RN

Simultaneously published in the USA and Canada
by Routledge
711 Third Avenue, New York, NY 10017

First issued in paperback 2014

Routledge is an imprint of the Taylor and Francis Group, an informa business

© 2011 Taylor & Francis

This book is a reproduction of the *Journal of Addictive Diseases*, vol. 29, issue 2. The Publisher requests to those authors who may be citing this book to state, also, the bibliographical details of the special issue on which the book was based.

Typeset in Times by Taylor & Francis Books

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 978-0-415-60103-0 (hbk)

ISBN 978-1-138-87805-1 (pbk)

Disclaimer

The publisher would like to make readers aware that the chapters in this book are referred to as articles as they had been in the special issue. The publisher accepts responsibility for any inconsistencies that may have arisen in the course of preparing this volume for print.

Women, Children and Addiction

This proposed book draws on the expertise of 35 experts in the field of Addiction Medicine to provide the reader with a current and comprehensive view of addiction as related to women, pregnancy, newborns, infants and children. The volume begins by placing current attitudes towards addicted women in a historical context, and continues with contributions on the relationship of gender to substance abuse research, addiction as a general health issue in women, and ethical dilemmas faced when approaching drug use during pregnancy.

The volume discusses high-risk pregnancies and HIV infection related to maternal drug abuse. It details specific pharmacotherapy such as methadone and buprenorphine, and assesses society's punitive view toward illicit drug-using women. Finally, the book describes outcomes of newborns, infants and children born following intrauterine drug exposure.

Health providers in many related disciplines, specialists in Addiction Medicine, social workers and ethicists are among those who will gain insight into the complex interdisciplinary matrix of abuse in women, its unique relationship to pregnancy, and its impact on drug-exposed children.

This book was published as a special issue in the *Journal of Addictive Diseases*.

Loretta P. Finnegan is President of Finnegan Consulting which addresses education, research, and treatment in issues relating to women's health and perinatal addiction. She is a retired Professor of Pediatrics, Psychiatry and Human Behavior, Thomas Jefferson University, Philadelphia, PA and Former Senior Advisor on Women's Issues, National Institute on Drug Abuse, NIH, DHHS, Bethesda, Maryland. Dr. Finnegan is recognized nationally and internationally as an expert in these fields and credited with the development of an assessment tool for neonatal opioid abstinence which is used widely in neonatal intensive care units in this country and abroad. Dr. Finnegan developed a landmark program which provided comprehensive services for drug dependent women and their children. She has authored or co-authored 170 articles and book chapters and lectured throughout the United States and in many international settings to disseminate her clinical and research knowledge in women's health and perinatal addiction.

Stephen R. Kandall is the former Chief of Neonatology at Beth Israel Medical Center in New York and Professor of Pediatrics at the Albert Einstein College of Medicine. He has published over 70 articles and book chapters on perinatal addiction, authored a history of women and addiction in the United States, *Substance and Shadow* (Harvard University Press, 1996), lectured widely nationally and internationally, and served on a number of national panels related to perinatal addiction. He currently serves on the Board of the North Carolina March of Dimes and a number of state legislative committees in North Carolina.

Notes on Contributors

Emmalee S. Bandstra, Connie E. Morrow, Elana Mansoor, and Veronica H. Accornero are affiliated with the University of Miami Miller School of Medicine, Department of Pediatrics, Miami, FL.

Andrea G. Barthwell is affiliated with EMGlobal, LLC, Arlington, VA.

Loretta P. Finnegan is affiliated with Finnegan Consulting, LLC, Avalon, New Jersey.

Jeanne Flavin is affiliated with the Department of Sociology and Anthropology, Fordham University, Bronx, NY.

Andrew Gerson and **Michael Belden** are affiliated with Thomas Jefferson University, Philadelphia, PA.

Stephen R. Kandall is Retired Professor of Pediatrics, Albert Einstein College of Medicine, Bronx, NY.

Abigail Kay is affiliated with the Department of Psychiatry and Human Behavior—Division of Substance Abuse, Medical Director N.A.R.P., Thomas Jefferson University Hospital, Philadelphia, PA.

Joan Keegan, Mehdi Parva, Mark Finnegan, and Andrew Gerson are affiliated with the Lankenau Hospital, Wynnewood, PA.

Mary Jeanne Kreek, Lisa Borg, Elizabeth Ducat, and Brenda Ray are affiliated with the Laboratory of the Biology of Addictive Diseases, The Rockefeller University, New York, NY.

Binta Lambert, Melissa Scheiner, and Deborah Campbell are affiliated with Albert Einstein College of Medicine, Bronx, NY.

Barry M. Lester and **Linda L. Lagasse** are affiliated with Brown Center for the Study of Children at Risk, The Warren Alpert Medical School of Brown University, Women and Infants Hospital of Rhode Island, Providence, RI.

Lynn M. Paltrow is affiliated with National Advocates for Pregnant Women, New York, NY.

Susan E. Ramsey, Kathryn M. Bell, and Patricia A. Engler are affiliated with The Warren Alpert Medical School of Brown University, Providence, RI.

Trusandra E. Taylor is affiliated with JEVs Human Services, Philadelphia, PA.

Ellen Tuchman is affiliated with the Silver School of Social Work, New York University, New York, NY.

Annemarie Unger, Erika Jung, Bernadette Winklbaaur, and Gabriele Fischer are affiliated with Medical University of Vienna, Department of Psychiatry and Psychotherapy, Vienna, Austria.

Jana Wichelecki and **Vera Leopold** are affiliated with Human Resources Development Institute, Inc., Chicago, IL.

Contents

<i>Notes on Contributors</i>	vii
1. Introduction to Women, Children and Addiction <i>Loretta P. Finnegan</i>	1
2. Women and Drug Addiction: A Historical Perspective <i>Stephen R. Kandall</i>	5
3. Women and Addiction: The Importance of Gender Issues in Substance Abuse Research <i>Ellen Tuchman</i>	15
4. Substance Use and Women's Health <i>Abigail Kay, Trusandra E. Taylor, Andrea G. Barthwell, Jana Wichelecki, and Vera Leopold</i>	27
5. Ethical Issues and Addiction <i>Binta Lambert, Melissa Scheiner, and Deborah Campbell</i>	52
6. Addiction in Pregnancy <i>Joan Keegan, Mehdi Parva, Mark Finnegan, Andrew Gerson, and Michael Belden</i>	63
7. Human Immunodeficiency Virus Risk Behavior Among Female Substance Abusers <i>Susan E. Ramsey, Kathryn M. Bell, and Patricia A. Engler</i>	80
8. Pharmacotherapy in the Treatment of Addiction: Methadone <i>Mary Jeanne Kreek, Lisa Borg, Elizabeth Ducat, and Brenda Ray</i>	88
9. Gender Issues in the Pharmacotherapy of Opioid-Addicted Women: Buprenorphine <i>Annemarie Unger, Erika Jung, Bernadette Winklbaaur, and Gabriele Fischer</i>	105
10. Punishing Pregnant Drug-Using Women: Defying Law, Medicine, and Common Sense <i>Jeanne Flavin and Lynn M. Paltrow</i>	119
11. Prenatal Drug Exposure: Infant and Toddler Outcomes <i>Emmalee S. Bandstra, Connie E. Morrow, Elana Mansoor, and Veronica H. Accornero</i>	133
12. Children of Addicted Women <i>Barry M. Lester and Linda L. Lagasse</i>	147
<i>Index</i>	165

Introduction to Women, Children and Addiction

Loretta P. Finnegan, MD, LLD (Hon), ScD (Hon)

Addiction in women is a major public health problem. Approximately 90% of women using drugs are of reproductive age.¹ Societal moral attitudes have stigmatized and dehumanized women who are drug-dependent, particularly those who become pregnant.² As a result, barriers exist for women who are addicted to drugs when they attempt to obtain optimal and appropriate medical and obstetrical care, as well as gender-specific services for their addiction. These barriers apply to women of all races and socioeconomic status. The best public health result can be obtained once these barriers have been removed, allowing women to find appropriate services in supportive, multi-dimensional treatment facilities for themselves and their children.³ Much has been learned over the past several decades from research in the field of drug dependence, but continued attention to evidence-based studies is essential to provide the best possible care for women who are addicted, to determine the intricacies of neonatal abstinence syndrome, and to assess the overall immediate and long-term effects of in utero drug exposure. To delineate the multi-factorial aspects of addiction in women and the effects of in utero exposure, it will take many more dedicated researchers and a large funding commitment by government agencies and private foundations.

This supplement will address the major effects of addiction in women and the impact of in utero exposure on their infants and children. Commencing with the history of addiction in women, documents show that female addiction is not a new phenomenon in America, but rather has existed for more than 150 years and was "the result of inappropriate overmedication practices by physicians and pharmacists, media manip-

ulation, or the woman's own attempts to cope with social or occupational barriers preventing equality and self-fulfillment."² One could look at current societal mores and practices and see that history truly repeats itself.

Epidemiological and clinical research has indicated that predictors for and progression to drug abuse and dependence are often gender-specific or gender-sensitive. Differences between men and women have been identified in evidence-based studies examining the epidemiology of drug abuse, biological and subjective responses to drugs, patterns of use, progression from use to dependence, gender differences in medical consequences of drug addiction, concomitant psychiatric disorders with drug use, victimization and violence against women, midlife and older women, specific barriers to entry, retention, and completion of treatment.^{4,5} In contrast to men, women have a higher vulnerability to the adverse consequences of addiction, show a more rapid progression to entry into treatment despite fewer years of active illicit drug abuse; however, they are underrepresented in addiction treatment.⁶

Significant to women addicted to alcohol, nicotine, opioids or stimulants is the tremendous effect on their health. The medical literature clearly indicates that women progress more rapidly than men into addiction to alcohol and other drugs with the development of serious health consequences. Numerous medical complications occur as a result of addiction in women, including hepatitis, cirrhosis, cardiovascular disease, diabetes mellitus, osteoporosis, lung, breast and endometrial cancer, chronic obstructive pulmonary disease, infections, neurological dysfunctions, and HIV/AIDS.³

Drug use during pregnancy is a major risk factor for maternal morbidity and neonatal complications. To normalize the pregnancy and protect the unborn fetus, considerable challenges exist with regard to identification, assessment, and treatment of woman who addicted while pregnant. The numerous medical and psychosocial complications listed above are compounded during pregnancy with the risk of preterm birth, intrauterine growth restriction, and placental accidents. Infants born to women who are addicted have a higher incidence of morbidity and mortality as a result of prematurity, infection, neonatal abstinence syndrome, and the development of potentially lethal fetal anomalies due to some exposures (i.e., alcohol). Unfortunately, drug abuse treatment providers frequently do not have the facilities or the obstetrical staff available to provide the specialized services that the woman who are addicted while pregnant requires. Pregnancy is an opportune time for women and treatment staff to encourage the woman to seek recovery from an addictive lifestyle.⁷ Both the health care and lay communities need to advocate for the ethical, moral, and just treatment of pregnant women who are addicted and their children.

Women who are addicted contribute to the incidence of HIV infection as a result of their risky behaviors as a result of their injection practices and because of increased engagement in high-risk sexual behaviors. During pregnancy, HIV infection confers the added risk of perinatal transmission, and this transmission accounts for nearly all new HIV infections in children.⁸ Screening, risk reduction interventions, and treatment of the mother and infant represent the current approach to HIV-infected dyads. More specific risk reduction interventions for women are greatly needed.

Medication-assisted treatment has been instituted and used over the past 40 years. Numerous studies have reported on the efficacy, drug-drug interaction, side effects, and dosing issues regarding methadone. Basic clinical research addressing the molecular neurobiological aspects of opiate addiction, as well as human molecular genetic studies by Kreek et al.⁹ and Kreek,¹⁰ have found few differences between males and females. Although women have a different opioid

binding capacity than men that will influence dosing regimens in opioid pharmacotherapy,¹¹ both pregnant and non-pregnant women have been successfully treated with methadone.

In recent years in the United States, buprenorphine has been approved for use in medication-assisted treatment in men and non-pregnant women. Buprenorphine has been shown to be well tolerated, and due to its partial agonist properties appears to be a safe therapeutic agent, especially because severe side effects such as respiratory depression develop only with severe over-dosing. It is clinically and scientifically desirable to have treatment options when selecting medication-assisted treatment for opioid dependent individuals.^{12,13}

Although there has been considerable controversy concerning the use of methadone in pregnancy, it remains both the medication of choice and the standard treatment in the United States. Many studies suggesting that lower methadone doses in pregnancy decrease the incidence and severity of neonatal abstinence have been criticized due to poor research designs and confounding variables. More recent studies have demonstrated that dose is probably not related to the incidence or severity of neonatal methadone abstinence.¹⁴ During pregnancy, significantly more benefits have been identified than risks when methadone and comprehensive services are provided. The main risk is the incidence of neonatal abstinence in 60% of the neonates exposed, equal to that of heroin but with less overall morbidity for the infant.¹⁵ Some studies show that neonatal abstinence in infants exposed to buprenorphine may be less severe than that seen with methadone.¹⁶ Numerous studies in the United States and in Europe have shown the usefulness of buprenorphine in pregnant women; however, we await results from the international MOTHER Study to further support its efficacy and safety in the perinatal period.¹⁷

Of great concern to many in the medical and legal professions is the practice of punishing or prosecuting pregnant women using drugs in several areas of the United States. The plight of the pregnant women who are drug dependent can best be stated by Flavin and Paltrow within their section of the current supplement:

The arrests, detentions, prosecutions and other legal actions taken against drug-dependent pregnant women distract attention from significant social problems such as our lack of universal health care, the dearth of policies to support pregnant and parenting women, the absence of social supports for children, and the overall failure of the drug war. The attempts to “protect the fetus” undertaken through the criminal justice system (as well as in family and drug courts) actually undermine maternal and fetal health and discourage attempts to identify and implement effective strategies for addressing the needs of pregnant drug using women and their families.

Some of the flawed premises on which these arrests, detentions, and prosecutions are based are exposed in their section; the issues viewed through legal, moral, and ethical lenses broaden this volume’s perspective.

One of the areas in the field of addiction that may evoke a great deal of emotion, controversy, and even anger is the relationship of prenatal drug exposure to the outcome of exposed infants and children. Numerous studies of animals and humans have reported the potential adverse effects on infants and children; however, many have not considered the confounding effects of multiple drugs (licit and illicit) as well as the environment to which the child is exposed. It is acknowledged that some drugs, such as alcohol, are teratogenic; however, the negative impact that nicotine may have on the developing fetus and the child are frequently discounted by the lay public.

After careful research designs were implemented, illicit drugs that had been considered seriously harmful to the offspring are now considered to have only subtle effects. Cocaine and opioids have the potential to affect growth at birth and in the toddler years. In contrast to opioids, which have a high incidence of neonatal abstinence and infant neurobehavioral deficits, prenatal cocaine exposure appears to be associated with subtle decrements in neurobehavioral, cognitive, and language function.^{18–20}

In older children, numerous studies have cited the effects of prenatal cocaine exposure to in-

clude behavior problems and attention, language, and cognition deficits. Follow-up studies of children exposed to opioid (mostly methadone exposed), many that dealt with small numbers of participants, have been unable to adequately control for separate potentially confounding variables. In older children, studies report school behavior problems, disruptive behavior, and a diagnosis of ADHD.²¹ Generally, no differences in children exposed to opioid have been noted on cognitive tests in contrast to comparison groups. However, one important issue in the long-term follow-up of these children is that they grow up in high risk environments. Similar learning and behavior problems have been reported in school-age children not only exposed to drugs in utero,²² but also those living with drug-dependent parents who didn’t have intrauterine exposure.^{23,24} A key issue to consider in reporting the outcomes of infants and children is that the children and their families, as well as society in general, would be well served by providing appropriate prevention and intervention services to address the unique needs of drug-abusing pregnant and postpartum women and the developing fetus. These models of treatment have been described in the literature and many currently exist throughout major cities in the United States and abroad.²⁵ Unfortunately, not enough comprehensive services exist to meet the current needs of the vast population of women and children suffering from the disease of addiction.

This compilation of articles on women and children and addiction will provide the reader with up-to-date information prepared by clinicians and scientists who have had extensive clinical experiences and who have done some of the seminal research in this field. The areas covered include historical accounts, the importance of gender, health of the women including HIV risk behaviors and incidence, ethical issues, pregnancy, medication-assisted treatment with methadone and buprenorphine, society’s need to punish women who are addicted and pregnant, and infant and toddler outcomes should provide the reader with an excellent background to deal with the effects of addiction on women and children. Finally, we must strive for excellence in research and in the clinical care of women

and children afflicted by addiction. Government agencies and private foundations must recognize their responsibility to provide adequate funding to provide the appropriate and unique services and the needed research for women who are dependent on drugs and their children. Only if this responsibility is taken seriously will this country be able to cope with the pathophysiological and behavioral effects seen in women and children as a result of addiction.

REFERENCES

1. Kuczkowski K. The effects of drug abuse on pregnancy. *Current Opinion in Obstetrics and Gynecology* 2007; 19:578–85.
2. Kandall SR. *Substance and shadow: women and addiction in the United States*. Cambridge, MA: Harvard University Press, 1996.
3. Finnegan LP, Hagan T, Kaltenbach K. Opioid dependence: scientific foundations for clinical practice, pregnancy and substance abuse: perspectives and directions. *Proceedings of the New York Academy of Medicine* 1991; 67:223–39.
4. Wetherington CL. Sex-gender differences in drug abuse: a shift in the burden of proof? *Exp and Clin Psychopharmacol* 2007; 15:411–7.
5. Brady KT, Randall CL. Gender differences in substance use disorders. *Psychiatr Clin North Am* 1999; 22:241–52.
6. Hernandez-Avila C, Rounsaville B, Kranzler H. Opioid-, cannabis- and alcohol-dependent women show more rapid progression to substance abuse treatment. *Drug and Alcohol Dependence* 2004; 74:265–72.
7. Hagan TA, Finnegan LP, Nelson-Zlupko L. Impediments to comprehensive treatment models for substance-dependent women: treatment and research questions. *Journal of Psychoactive Drugs* 1994; 26:163–71.
8. Centers for Disease Control. HIV/AIDS surveillance report. [8]. 1996.
9. Kreek MJ, Bart G, Lilly C, LaForge KS, Nielsen DA. Pharmacogenetics and human molecular genetics of opiate and cocaine addictions and their treatments. *Pharmacol Rev* 2005; 57:1–26.
10. Kreek MJ. The role of qualitative and quantitative analysis of drugs and their metabolites in maternal-neonatal studies. In: *National Institute on Drug Abuse Symposium on Comprehensive Health Care for Addicted Families and Their Children*, Washington, DC: Services Research Report (USGPO), #017-024-00598-3, 1977: 67–73.
11. Zubieta JK, Dannals RF, Frost JJ. Gender and age differences on human brain mu-opioid receptor binding measured by PET. *Am J Psychiatry* 1999; 156: 842–8.
12. Johnson RE, Eissenberg T, Stitzer ML, Strain EC, Liebson IA, Gibelow GE. Buprenorphine treatment of opioid dependence: clinical trial of daily versus alternate-day dosing. *Drug Alcohol Depend* 1995; 40:27–35.
13. Fischer G, Johnson RE, Eder H, et al. Treatment of opioid-dependent pregnant women with buprenorphine. *Addiction* 2000; 95:239–44.
14. Berghella V, Lim PJ, Hill MK, Cerpes J, Chen-nat J, Kaltenbach K. Maternal methadone dose and neonatal withdrawal. *Am J Obstet Gynecol* 2003; 189: 312–7.
15. Finnegan LP, Kaltenbach K. 1992, Neonatal abstinence syndrome. In: Hoeckelman RA, Nelson NM, eds. *Primary pediatric care* (2nd ed.). St. Louis: Mosby Year Book Inc., 1991: 1367–78.
16. Jones HE, Johnson RE, Jasinski DR, et al. Buprenorphine versus methadone in the treatment of pregnant opioid-dependent patients: effects on the neonatal abstinence syndrome. *Drug and Alcohol Dependence* 2005; 79:1–10.
17. Jones HE, Arria AM, Baewert A, Heil SH, Kaltenbach K, Martin PR, Coyle MG, Selby P, Stine SM. Evolution and innovation in the agonist treatment of opioid-dependent pregnant women: development of a multi-center randomized controlled clinical trial maintenance in the addictions. *Journal of Opioid Management*, in press.
18. Weiner SM, Finnegan LP. Drug withdrawal in the neonate. In: Carter B and Gardner S, eds. *Handbook of neonatal intensive care* (6th ed.). St. Louis: Mosby-Year Book, Inc., 2009.
19. Bandstra ES, Accornero VH. Infants of substance abusing mothers. In Fanaroff and Martin, eds. *Neonatal-perinatal medicine: diseases of the fetus and infant* (8th ed., vol. 1). Philadelphia: Elsevier Mosby, 2006:733–57.
20. Bauer CR, Shankaran S, Bada H, et al. The maternal lifestyle study (MLS): drug exposure during pregnancy and short-term maternal outcomes. *Am J Obstet Gynecol* 2002; 186:487–95.
21. Hans SL. Prenatal drug exposure: behavioral functioning in late childhood and adolescence. *NIDA Res Monogr* 1996; 164:261–76.
22. Olofsson M, Buckley W, Andersen GE, Friis-Hansen B. Investigation of 89 children born by drug-dependent mothers. II. Follow-up 1–10 years after birth. *Acta Paediatr Scand* 1983; 72:407–10.
23. Hejanic B, Barredo V, Hejanic M, Tomelleri C. Children of heroin addicts. *The International Journal of the Addictions* 1979; 14:919–31.
24. Nichten S. The children of drug users. *Journal of the American Academy of Child Psychiatry* 1973; 12:24–31.
25. Finnegan LP. ed. *Treatment services for substance abusing women*. National Institute on Drug Abuse Research Monograph Series. Washington, DC: U.S. Government Printing Office, 1997.

Women and Drug Addiction: A Historical Perspective

Stephen R. Kandall, MD

ABSTRACT. The history of women and addiction in America extends back more than 150 years. Although the true epidemiology of women and addiction has always been difficult to determine, the spectrum of female addicts extends well beyond those women who make sensationalistic headlines by “abandoning” or “battering” their children. Historically, female addiction has been largely the result of inappropriate overmedication practices by physicians and pharmacists, media manipulation, or individuals own attempts to cope with social or occupational barriers preventing equality and self-fulfillment. From the mid-nineteenth century, uneasy tolerance, social ostracism, vilification, persecution, and legal prosecution have grudgingly, but not completely, given way to more humane treatment opportunities in the setting of more enlightened comprehensive care.

INTRODUCTION

Although the crescendo of media coverage surrounding heroin-related crime in the 1960s and 1970s followed by the sensationalistic treatment of the “crack epidemic” may have suggested that America was fighting its first “war on drugs,” the problem of uncontrolled and illicit use of addicting drugs has existed in America for more than 150 years.¹

Legal use of opiates, such as reliance on gum opium by colonial militias, dates back to the Revolutionary War. However, drug use in America was first acknowledged to be a “problem” in the mid-nineteenth century. During that period, increased use of narcotics could be attributed primarily to the fact that physicians had a limited ability to treat patients pharmacologically, resorting to opiates as a mainstay of their phar-

maceutical armamentarium. Opiates were used to treat a wide variety of conditions, such as hiccoughs, neuralgias, alcoholism, chronic respiratory disorders, malaria, syphilis, rheumatism, insomnia, anxiety, and fatigue.² Because opiates reduce intestinal motility, they were widely prescribed during cholera outbreaks in 1832–1833 and 1848–1854 and dysentery in 1847–1851. During the Civil War, approximately ten million opium pills and 2.8 million ounces of opium tinctures and powders were distributed to Union forces alone; many wounded veterans became dependent on opiates to soothe painful and inadequately treated wounds.³

In addition to medicinal use, recreational opium use found its way to America in the mid-nineteenth century. The Opium Wars of 1839–1842 and 1856–1860, launched by Great Britain to force China to accept opium into their

country to offset a trade imbalance created by the British thirst for Chinese tea, opened the world market to China. In addition, large numbers of Chinese workers immigrated to America to help its westward expansion. Difficult working conditions drove those immigrants to opium dens for gambling, prostitution, and drugs; during this period an estimated 20% to 25% of Chinese workers in America smoked opium.⁴ Although contacts between Chinese and Whites were initially limited, transfer of opium from Chinese to Whites began to occur after 1870, primarily through underworld contacts. All of these factors contributed to the seven-fold increase in opiate use in the general population from less than 1 per 1,000 in 1842 to approximately 5 per 1,000 in the 1890s.⁵

The end of the nineteenth century also saw a dramatic increase in cocaine use. Although a raw, impure form of cocaine had been chewed in Peru and Bolivia for more than 5,000 years, its origins in America can be traced to the late 1870s, when cocaine found wide acceptance as a topical anesthetic, especially in ophthalmic surgery, and even wider (and often inappropriate) medical application as a stimulant, in treatment of "wasting diseases," dyspepsia, typhoid fever, kidney disease, hay fever, colds, and sinus conditions.⁶ After the 1880s, E. R. Squibb and Company, McKesson and Robbins, and Parke-Davis all marketed cocaine to meet the growing demand in America. In addition, cocaine-laced products were widely available in a vast array of "commercial folk medicines," home remedies, and tonics. In addition to the growing problem of opiates and cocaine, the use of ether, chloroform, and chloral hydrate were all considered fashionable during the end of the nineteenth century.⁷

Although modern culture has tended to view addiction as a "men's issue," the use and abuse of addicting substances by women is inextricably woven into this history and dates back to the earliest days of this country. Through the mid-to late nineteenth century, drug use increased more rapidly by women than men; by the end of the nineteenth century, approximately two-thirds to three-quarters of the opium addicts, as well as significant numbers of users of cocaine, chloroform, and cannabis, were women.⁸⁻¹⁰

The most important reason for the increase in opiate consumption among mid- to late nineteenth-century women, as with men, was the prescribing and dispensing of legal opiates by physicians and pharmacists. Victorian women were considered less capable of managing painful disorders and thus more in need of medication. R.V. Pierce, who built a huge business based on opiate-laden medications, advised that when woman, "the last and crowning handiwork of God... is disturbed by disease, when the nicely-adjusted balance of her complex nature deviates from its true and intended poise... its importance should elicit... the scientific administration of the choicest, rarest, and purest medicinal elements in the whole range of nature" (p. 684).¹¹

The most common conditions for which women were medicated with opiates were "female problems."^{12,13} In 1879, Dr. T. Gaillard Thomas, President of the American Gynecological Society, wrote: "For the relief of pain, the treatment is all summed up in one word, and that is *opium*. This divine drug overshadows all other anodynes... you can easily educate her to become an *opium-eater*" (p. 316).¹⁴ R. V. Pierce offered pages of testimonials from satisfied women who had used his patent medications for conditions such as "falling of the womb" (p. 733), "paralysis and uterine disease" (p. 737), "indigestion, constipation, and uterine disease" (p. 737), "female weakness" (p. 739), "severe flowing" (p. 741), "vaginitis" (p. 744), and "suppressed menstruation and nervous disability" (p. 746).¹⁵ As late as 1913, women who suffered from painful menstruation were counseled that "paregoric, laudanum, etc. is a specific" (p. 724).¹⁶

Women were also widely treated for "neurasthenia," or "nervous weakness," a vague disorder which encompassed an enormous spectrum of real and imagined symptoms, including tenderness of the scalp, spine and body; vague pains and "flying neuralgias"; flushing and fidgetiness; variability of pulse and palpitations; strength giving out or legs giving way; sensitivity to hot or cold water; sensitivity to weather changes; ticklishness; insomnia; nervous dyspepsia; partial memory failure; sexual exhaustion; depression and morbid fears; headache; pain and

heaviness; floating specks before the eyes; noises in the ears; and chills and hot flashes.^{17,18} As an 1886 medical textbook explained: "To women of the higher classes, ennuyée and tormented with neuralgias or the vague pains of hysteria and hypochondriasis, opium brings tranquility and self-forgetfulness" (p. 649).¹⁹

In addition to opiates, cocaine was also used to treat women for neurasthenia. In his *History of Coca*, W. Golden Mortimer, acknowledging that sufferers of this condition were more often women, noted that among physicians "fully one-half of those who went into detail advocated the use of Coca . . ." (p. 390) as the most beneficial treatment.²⁰ Cocaine was also used extensively to treat a range of gynecological complaints, including painful intercourse, cervical endometritis, urethral irritation, dysmenorrhea, and cervical lacerations following childbirth.

In addition to medical uses, cocaine was used recreationally by women of all social classes. Along with well-documented reports of use by women of privileged classes, reports can be found of "cocaine debauchery," raids on cocaine joints frequented by "lower classes of fallen women" and "lower class prostitutes, black as well as white" (pp. 464–5).²¹

Hypnotics, such as ether, chloroform, and chloral hydrate were also widely prescribed for women. Chloroform, first used as an anesthetic in the 1840s, came into wider use in treating nervous headaches and "trifling ailments."²² Similar to opiates and cocaine, chloroform was marketed in many patent remedies such as Shilo's Consumptive Cure, King's New Discovery, and Edison's Polyform, as well as liniments. By the 1850s, chloroform had already found use as a non-medicinal agent. An undercover female reporter for the *New York Herald* wrote in 1894 that a doctor advised her "there was probably no form of disease where the gas had been so beneficial as in nervous troubles of all descriptions" (p. 681). In 1901, *The Boston Globe* reported that upper-class women were flocking to "oxygen parties," at which they inhaled a nitrous oxide mixture to liven up the festivities.²³ Finally, chloral hydrate could be easily purchased and by 1872, a physician noted that the drug enjoyed wide use among "school teachers, bookkeepers [and] invalid women made weaker by family cares"

(p. 525). In addition, he found that "in obstetric practice, many physicians have used chloral hydrate with the happiest effect" (p. 525).²⁴

During the mid- to late nineteenth century, words of caution regarding the dangers of drug use were issued by responsible physicians, and drug use was frowned on by many. However, the relatively benign approach that society as a whole took regarding drug use in women was predicated largely on the prevailing stereotype of the woman who used drugs. Although, in reality, the spectrum of female drug use was broad and spanned all socioeconomic strata of society, women who used drugs tended to be portrayed as genteel, southern, White, upper-middle class women, whose addiction "problems" tended to be family-centered rather than posing a danger to society. Such prototypes made their loosely fictionalized appearances in characters such as Helen Matthews in Maria Weed's 1895 novel, *A Voice in the Wilderness*, and better known figures such as Lily Bart, the chloral hydrate addict in Edith Wharton's 1905 novel, *The House of Mirth*, and later opium addicts such as Mary Tyrone in Eugene O'Neill's *Long Day's Journey into Night* and Mrs. Henry Lafayette Dubose in Harper Lee's *To Kill a Mockingbird*.

Although drug use by women was readily acknowledged to be widespread, the fact that the majority of them had become addicted through the misuse and overuse of legal but addicting substances suggested that they posed no immediate threat to society and, as such, did not incite sentiment for anti-drug legislation. The fact that anti-drug legislation in America experienced an upsurge between 1876 and 1920 is explained by dramatic changes in the sociodemographics of drug use in this country. As drug use patterns changed predominantly from female to male, White to minority, southern rural to northern urban, and wealthy to poor (in other words, from mainstream to deviant) it became easier to mobilize America in a campaign to eradicate drug use. Following passage of the first anti-opium legislation in San Francisco in 1875, which was intended to keep Whites from frequenting Chinese opium dens, similar laws were passed in Virginia City, Nevada, in 1876 and in New York State in 1882. National anti-drug legislation was unsuccessfully introduced

in Congress in 1880 and 1884, but by 1912 every state except Delaware and many American cities had passed ordinances against opiates, cocaine, or both. In 1906, Congress passed the Pure Food and Drug Act, which exerted a measure of control over the production and sale of patent medicines. In 1914, Congress passed the Harrison Anti-Narcotic Act, which, although subject to interpretation, led to a hard-line anti-drug approach by the U.S. government following two 1919 Supreme Court decisions. In *U.S. v. Doremus*, the Supreme Court ruled that the Harrison Act was constitutional, and in *Webb et al. v. U.S.*, the Supreme Court ruled that physicians could not prescribe narcotics solely for addiction maintenance. These legislative and legal actions ushered in the repressive approach to drug control that has characterized the country's stance toward drug use for approximately 100 years.

As suggested, much of the early anti-drug legislation passed in the United States was intended to counter the growing social and economic threats posed by emerging minorities such as Asian immigrants or African Americans. To advance this initiative, women began to be portrayed as helpless targets of drug-crazed, sexually predatory minority men. The sensationalistic Hearst-dominated lay press frequently ran stories about women lured into prostitution through Chinese opium dens or the White slave trade. San Francisco authorities feared that "many women and young girls . . . were being introduced to visit the dens, where they were being ruined morally and otherwise" (p. 1).²⁵ Hamilton Wright, one of the architects of our formative drug policy, was extremely concerned about opium and "the large numbers of women who have become involved and were living as common-law wives or cohabitating with Chinese in the Chinatowns of our various cities" (p. 44).²⁶ In response to the increasing use of cocaine by southern African American men, testimony was offered before the U.S. House of Representatives in 1910 that its use was involved in "a great many of the southern rape cases" (p. 93).²⁷ In the 1930s, Harry Anslinger, head of the Federal Bureau of Narcotics, advanced his anti-marijuana agenda with the warning that "it would be well for law-enforcement officers ev-

erywhere to search for marijuana behind cases of criminal and sex assault."²⁸

Once drug use was essentially criminalized after the Harrison Act and the two 1919 Supreme Court decisions, addicted women were forced to support their drug habits as best they could. Women of the "smart chic set" could maintain their drug habits in private clinics or with the help of personal physicians. Sanitaria, however, which had been in existence since the late nineteenth century, numbering about 100 by 1910, had largely closed following exposure of their unsuccessful results by physicians and the press. Most famous of these sanatoria were the John Harvey Kellogg clinic in Battle Creek, Michigan, and the national chain of Keeley Institutes, which by 1892-1893 were treating approximately 15,000 addicts and were not finally closed until 1920.

Although some women found help, many more without means were forced into the shadowy margins of society, using prostitution and crime to support their drug habits. When it was realized that a large number of addicts had been suddenly forced on to the streets without any organized treatment, a primitive network of 44 clinics hurriedly sprung up around the country to bolster the few scattered clinics that had been started as early as 1912 in Jacksonville, Florida.²⁹ During the last 6 months of 1919, the New York City clinic treated 1,532 women, approximately one-quarter of the total of registered addicts. In many other clinics throughout the country, women constituted 25% to 35% of the patients.³⁰ Drug clinics reduced crime in their cities and, despite wide variability in their quality, offered women the chance to cope with their addiction in a medically supervised manner. However, because these clinics ran counter to the repressive anti-drug approach being promoted by the federal government, they never found favor with the Narcotics Unit of the Treasury Department, and the last clinic in Shreveport, Louisiana, was closed in March 1925.

Not all women using drugs were poor or wanted treatment. Society women, movie stars, and the "idle rich" dabbled with cocaine, marijuana, and opium smoking during the 1920s and 1930s. Hollywood found that drug use combined with sexuality made for big business.

Beginning in 1894 with a 30-second kinetograph entitled "Chinese Opium Den," which was made for Thomas Edison, Hollywood produced more than 200 films dealing with drug themes, many portraying women as the vulnerable targets of drug-involved men.³¹ Top stars such as Norma Shearer, Pola Negri, and W.C. Fields starred in these movies, while other stars such as Mabel Normand and Tallulah Bankhead developed off-screen cocaine habits, often leading to lurid scandals.

Jazz age music also gave expression to the interaction of drug use and female sexuality.³² Duke Ellington's "Hophead" and Louis Armstrong's "Muggles," about marijuana, Leadbelly's refrain about cocaine, "Ho, ho, baby, take a whiff on me," Cab Calloway's "Minnie the Moocher," "Kicking the Gong Around," and "Reefer Man," as well as other songs such as "Sweet Marijuana Brown," "If You're a Viper," and "The Girl in the Velvet Band" all spoke to the permeation of drug use into that segment of society. In the case of "Cocaine Lil," a popular cult figure of the 1920s who lived in "Cocaine Town upon Cocaine Hill," her drug use proved fatal: "She died as she lived-sniffing cocaine."

Somewhat later, through the 1940s and 1950s, treatment options for women addicted to drugs remained limited. Between 1941 and 1965, approximately 15,000 female patients, constituting 18% of all admissions, were treated at the Lexington, Kentucky Federal Farm, ostensibly a centralized drug treatment facility but in reality akin to a prison run by the Public Health Service under the vigilant supervision of the Justice Department and the Federal Bureau of Narcotics.³³ Living conditions were primitive and depressing³⁴ and were compared to those described in *The Snake Pit*, Mary Jane Ward's expose of conditions in asylums treating mental disorders. Not surprisingly, relapse rates were high among women discharged from Lexington, and many became "winders," patients who spent much of their lives in and out of treatment seeking elusive cures for their addictions.

Treatment options did begin to expand in the 1960s. Detoxification, which had the longest history, remained a therapeutic option but showed limited success. Women were among early en-

rollees in therapeutic communities, which began in 1958 with Synanon in Ocean Park, California, followed by other programs such as Daytop, Odyssey House, and Phoenix House. Religion-based alternatives, outpatient non-maintenance treatment, inpatient chemical dependency treatment, and correctional treatment programs all offered drug treatment to women in limited ways but most were based on models more suited to treatment of male addicts. In many of these male-dominated "therapeutic" settings, women often had to contend with gender-based insensitivity, hostility, voyeurism, and even outright sexual abuse.

The most important therapeutic option for women was the development of methadone maintenance. During the early 1960s, Drs. Vincent Dole, Marie Nyswander and Mary Jeanne Kreek, working at the Rockefeller Institute in New York, pioneered the use of methadone, a synthetic opiate they found could block the euphoriant effects of heroin and the addict's craving for that drug. Although the original methadone trials excluded women, a small group of female addicts soon entered treatment and appeared to derive significant benefit from maintenance replacement therapy. Between 1969 and 1973, as methadone maintenance gained wider acceptance, women comprised 10,000 of the 40,000 patients in federally funded treatment programs. This percentage remained relatively stable over the next 20 to 30 years; in every year from 1992 to 2005, women comprised approximately 35% of the 100,000 to 125,000 patients treated in publicly funded methadone maintenance programs.

As increased awareness of drug addiction was beginning to benefit women, newer forms of addiction offset some of that progress. Psychoactive drug use mushroomed during the 1950s and early 1960s. Disproportionately affecting women, prescriptions, often inappropriately prescribed, were written for minor tranquilizers, hypnotics, stimulants, sedatives, major tranquilizers, and antidepressants. By the late 1960s, women comprised two-thirds of all psychoactive prescription drug users.³⁵ Some claimed that sexism played a major role in shaping physicians' attitudes toward their female patients. Much like chloral hydrate and bromides

prescribed a century earlier, these new psychotropic agents were offered to middle-aged, middle-class women for anxiety, mild depression, and a general sense of dissatisfaction that had no known organic basis.

Throughout the 1970s, women remained the major users of prescription drugs. The National Institute on Drug Abuse reported early in the decade that between one and two million women experienced some degree of addiction to prescription drugs. In addition, the National Institute on Drug Abuse (NIDA) noted that 60% of all drug-related hospital emergency room visits involved women; two-thirds of those visits were the result of suicide attempts and one-third were due to drug dependency or adverse drug reactions.³⁶ Even as late as the 1990s, despite the widely-known dangers of such drugs, 3.7 million women were reportedly taking prescription drugs non-medically.³⁷

Momentum in the push to provide treatment options for addicted women was provided by the Women's Movement in the 1970s, which created an atmosphere in which a more enlightened discussion of women and drugs could flourish. NIDA opened in 1974 with a forward-looking approach to female addictions; by 1975, NIDA had launched several innovative comprehensive drug treatment demonstration grants in six cities, using pregnancy as the entry point. Thus, programs such as the Family Center Program in Philadelphia, the Pregnant Addicts and Addicted Mothers Program in New York, and the Hutzler Hospital program in Detroit pioneered efforts to provide women using drugs with a network of comprehensive and interrelated services to meet their varied needs. Whereas in the past treatment for addicted women had been clumsily grafted onto models more suitable for males, by the early 1970s the idea of "comprehensive care" for pregnant drug-users was taking shape. For the first time, although in a limited number of programs, women could receive their medical, obstetric, and drug treatment care in a single facility. This concept has been subsequently expanded and it is now recognized that truly "comprehensive" care should include: a continuum of addiction services (residential, outpatient, and home-based); counseling on other issues such as sexual abuse and domestic violence; services

for children (day care, play therapy, child developmental monitoring, and parental training); concrete services such as housing, food and transportation; comprehensive health care (family planning, prenatal care, and HIV and STD prevention and treatment); educational training such as job training and high school equivalency; appropriate staffing (female, supportive, non-confrontational, and culturally and racially sensitive); legal and advocacy services; and aftercare (12-step, transitional housing, and individual counseling).³⁸

By the end of the 1970s, the "treatment glass" for women could be viewed as half-full or half-empty. On the positive side, an enlightened attitude had taken hold and more women were finding their way into drug treatment. However, on the negative side the need for services continued to overwhelm available treatment slots, too many programs did not accept women, many programs were still providing inadequate gender-based services, and women were having difficulty reaching levels of administrative responsibility within programs. A 1979 nationwide survey found that only 25 programs described themselves as specifically geared to female addicts.³⁹ Even in those programs, more than half of the women did not receive gynecologic care, three-fourths did not receive contraceptive counseling, and non-minority women received the majority of available treatment.

Despite the fact that slow but perceptible progress in treating women addicted to drugs was being made through the 1970s and into the 1980s, a venomous attack on these women began in the mid-1980s. Anger against these women, stereotypically cast as poor, urban, minority women, fit well with the Reagan administration's plan to limit women's reproductive options, reduce social welfare spending, and socially marginalize the "welfare queens who were bankrupting the country." A continuing tough "zero tolerance" anti-drug policy led to the Comprehensive Crime Control Act of 1984, the Anti-Drug Abuse Act of 1986, and the Anti-Drug Abuse Amendment of 1988. Although funding for interdiction and policing increased between 1981 and 1985, the budgetary allotment for drug prevention, education, and treatment decreased by approximately 65 million dollars.

Anger against women using drugs, typified by their prosecution (see related article by Flavin and Paltrow in this edition) could be explained by several interrelated factors. The first was the increasing number of babies exposed to drugs being delivered in the United States due to the persistence of heroin use and the increasing use of cocaine. Data from individual cities, primarily in the northeast, such as New York, Boston, Philadelphia, and Providence, confirmed this increase in drug-related births. Nationally, these figures varied considerably, but exploitation of the highest figure, 375,000 babies annually or 11% of newborn babies,⁴⁰ fit the agendas of activists on both sides of the political spectrum: those who wished to demonize women using drugs and those who wished to maximize the problem to secure additional funding for drug treatment programs.

Second, with the heightened attention paid to newborns exposed to drug, women were also chastised, prosecuted, and incarcerated for their deficiencies as “child rearers.” With little sympathy for women who felt forced to avoid the healthcare system for fear of anger, resentment, discrimination, removal of their children, and even prosecution, the media and public tended to condemn these women as unfit mothers who lacked a maternal instinct and cared little about their children. As a result, the number of reports of child abuse and neglect tripled when both parents were drug users, which led to a nationwide increase in foster care placements. In 1994, the New York State Council on Children reported that the parents of 75% of the children in foster care were substance abusers.⁴¹ Nationally, the number of children in foster care increased from 280,000 to 360,000 between 1986 and 1989, and increased again to 500,000 by 1997.⁴²

A third factor contributing to the anger and resentment toward women using substances was the increase in medical problems seen in babies following prenatal drug exposure. Congenital syphilis, which had all but disappeared, reappeared and increased in numbers in the mid-late 1980s. Even more devastating was the increase in HIV infection among women using drugs and their offspring (see article by Ramsey, Bell, and Engler in this edition). By 1984, 50% to 60% of street addicts were HIV-positive; by 1993,

40,000 (12% of the 330,000 known AIDS cases in the United States) were women. Despite this, it was not until 1993 that the Office of Research on Women’s Health acknowledged that women were being systematically excluded from trials of useful and potentially life-saving drugs. This issue took on critical significance in 1994 when it was shown that zidovudine (AZT) treatment during pregnancy and continued treatment of the infant after birth could reduce the rate of perinatal HIV transmission by two-thirds.⁴³

Other pediatric medical issues contributing to the national anger against women using drugs were the increase in drug-related infant mortality, as well as low birth weight and its associated costs. For example, in New York City drug-related pregnancies were associated with a quadrupling of low birth weight infants between 1985 and 1987.⁴⁴ This coincided with pressure being brought by the government and managed care organizations to reduce health care costs. The Inspector General’s Office of the Health and Human Services Department estimated that the birth of 100,000 babies exposed to cocaine would cost the nation \$20 billion dollars annually.⁴⁵ It would hardly be unreasonable for society to conclude that valuable healthcare dollars were being siphoned from “legitimate” medical needs to fund the care of “innocent” babies born to “unfeeling” and “uncaring” mothers who used drugs.

A fourth factor contributing to national resentment toward women who used drugs was the increased presence of such women in the criminal justice system. Increased incarceration rates for women both fueled anger about the associated monetary costs and provided confirmation for the common belief that addiction was a “moral failing” rather than a sociological-medical problem. As previously noted, women who used drugs were more visible in the criminal justice system after passage of the Harrison Act in 1914. By the 1960s and 1970s, narcotics violations among women increased from just over 1% of total arrests to more than 6%.⁴⁶ Even more striking was the increase in narcotics-related juvenile arrests from less than 7 per 100,000 people to more than 150 per 100,000 people.⁴⁷ As a byproduct of the recent “war on drugs,” the number of women arrested for drug-related offenses