Marijuana and Madness

Psychiatry and Neurobiology

This book provides a comprehensive and up-to-date overview of the psychiatry and neuroscience of *Cannabis sativa* (marijuana), with particular emphasis on psychotic disorders. It outlines the very latest developments in our understanding of the human cannabinoid system, and links this knowledge to clinical and epidemiological facts about the impact of cannabis on mental health. Clinically focused chapters review not only the direct psychomimetic properties of cannabis, but also the impact consumption has on the courses of evolving or established mental illness such as schizophrenia. A number of controversial issues are critically explored, including whether a discrete 'cannabis psychosis' exists, and whether cannabis can actually cause schizophrenia. Effects of cannabis on mood, notably depression, are reviewed, as are its effects on cognition. This book will be of interest to all members of the mental health team, as well as to neuroscientists and those involved in drug and alcohol research.

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CAMBRIDGE UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK
40 West 20th Street, New York, NY 10011–4211, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

http://www.cambridge.org

First published 2004

Printed in the United Kingdom at the University Press, Cambridge

Typefaces Minion 10.5/14pt. and Formata *System* LaTeX 2ε [TB]

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

Library of Congress Cataloguing in Publication data
Marijuana and madness : psychiatry and neurobiology / edited by David Castle and Robin Murray.
p. cm.
Includes bibliographical references and index.
ISBN 0 521 81940 7 (hardback)
1. Marijuana – Physiological effect. 2. Marijuana – Psychological aspects. 3. Marijuana abuse – Complications. 4. Psychoses – Etiology. 5. Schizophrenia – Etiology. I. Castle, David J. II. Murray, Robin, MD, M Phil, MRCP, MRC Psych.
[DNLM: 1. Marijuana smoking – psychology. 2. Marijuana smoking – adverse effects. 3. Mental disorders – complications. WM 276 M33485 2004]
RC568.C2M375 2004
615′.7827 – dc22 2003055906

ISBN 0 521 81940 7 hardback

This book is dedicated to the memory of Frances Rix Ames, whose belief in the potential medical and environmental benefits of marijuana was never obscured by the smoke of political rhetoric.

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Foreword

Research on the relationship between cannabis and mental health is a vivid illustration of the fact that the pace at which new scientific insights are embraced by the community is determined in an idiosyncratic, non-linear fashion. In 1987, a landmark study by Andreasson in the *Lancet* presented credible confirmation of the classic clinical observation that use of cannabis was associated with onset of psychosis. One would have expected that the link between one of the most widely used psychotropic drugs and one of the most devastating of mental illnesses would have resulted in an animated public health discussion. In actual fact, nothing happened very much. In the ensuing 15 years, however, the cumulative weight of a range of clinical, epidemiological and basic science investigations became such that by 2003 both the scientific and public health communities have gradually become aware of the potential significance of cannabis use.

Therefore, if ever a book was timely and topical, it is this one. The editors have done a remarkable job in bringing together the views of the principal experts in the field from around the world, providing a balanced summary of all the evidence that relates the use of cannabis to mental health outcomes. It includes a comprehensive overview of studies of the direct psychotropic effects of cannabis whilst in other chapters this evidence is elegantly linked to the possible neurobiological mechanisms underlying cannabis-induced mental states. The authors go on to address the question, at the population level, of whether widespread use of cannabis in many societies is associated with the onset of psychiatric disorders and, if so, whether this is because individuals with mental health problems use cannabis to help them feel better or whether use of cannabis increases the risk of onset of mental health problems. Furthermore, it addresses the question whether some individuals are more vulnerable than others to the effects of cannabis on mental health. The book includes an analysis of why some people with mental health problems would use cannabis, how it affects the course of their illness and how treatment should be tailored to take into account dysfunctional use of cannabis.

The scientific information contained in this book not only serves clinicians, it will also help to inform public health discussions on if and how cannabis use should be regulated. Are the numerous coffee shops in the cities of the Netherlands where many young people gather on a daily basis a great good or should they be restricted? Is the rising proportion of people using cannabis a source of concern or does it show that we have learned to use the drug recreationally? In summary, does cannabis do more harm than good? Whatever the pre-existing opinion of the person when taking up this book, it is unlikely to be the same after.

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Preface

Cannabis sativa (marijuana) has been used by humans for centuries, largely for its psychological effects. Currently, it is the most widely used illicit substance in the world, and there is heated public debate about whether it should be legalized, or at least decriminalized, in a number of countries. There is also considerable public and commercial interest in its medicinal properties, and in hemp as an environmentally friendly plant with numerous potential uses. This discussion needs to be informed by a consideration of the effects of cannabis on the human brain, notably its effects on cognition, and its potential to cause psychotic symptoms, particularly in vulnerable individuals. Recent advances in our understanding of the human cannabinoid system, and methodologically robust epidemiological, clinical and experimental studies of the effects of cannabis in humans, allow us to understand better how cannabis exerts both its beneficial and its adverse effects.

It has been known for many years that people who suffer psychotic illness are far more likely to consume cannabis than the general population, and there has been much dispute about the reasons for this. Unfortunately, until recently there were relatively few data available to inform this debate. The situation has changed greatly over the last decade with the publication of new basic and clinical studies. Therefore, this book provides a comprehensive and up-to-date overview of the psychiatry and neurobiology of cannabis, with particular emphasis on psychotic disorders. It outlines the very latest developments in our understanding of the human cannabinoid system, and links this knowledge to established and emerging clinical and epidemiological facts about the impact of cannabis on mental health. The clinically focused chapters review not only the direct psychomimetic properties of cannabis, but also the impact consumption has on the course of evolving and established mental illnesses such as schizophrenia.

The expert contributors explore a number of controversial issues, including whether a discrete 'cannabis psychosis' exists, and whether cannabis can actually *cause* schizophrenia. Effects of cannabis on mood, notably depression, are reviewed, with particular attention paid to recent prospective studies. The impact of cannabis

on cognition (both in the short- and long-term) is covered in some detail, with a careful weighing of the evidence for and against any long-term adverse effects. There are chapters on some of the 'cutting-edge' aspects of neurobiological cannabis research, including studies of the cannabinoid system in schizophrenia, the effect of cannabis CB_1-receptor blockade on the psychomimetic effects of cannabis and cannabis–dopamine interactions.

We believe that this book provides a timely and comprehensive update on the psychiatry and neurobiology of *C. sativa*, by international experts in the field. We anticipate that the book will be of interest to those working in the mental health and drug and alcohol fields, as well as to psychopharmacologists and neuroscientists, and also to many consumers of cannabis.