

Depression and Physical Illness

Depression and physical illness are related intimately. Depressed mood is thought to contribute to the development and progression of some illnesses, while physical illness can, in turn, increase the risk of depression. This book provides a critical overview of the evidence linking depression with several major health conditions, including coronary heart disease, diabetes, cancer, chronic pain, disability, chronic fatigue and obesity. The book also explores the biological and behavioural processes underlying the association, discussing the role of neuroendocrine, immunological and inflammatory pathways and the relationship between depression and health behaviours such as smoking, physical activity and adherence to medical advice. It combines a thorough analysis of the clinical, biological and epidemiological data with guidance to health professionals and patients on how to manage depression in people suffering from physical illness, pointing the way to an integrated approach to healthcare.

Andrew Steptoe is British Heart Foundation Professor of Psychology in the Department of Epidemiology and Public Health at University College London. He is a past president of the International Society of Behavioral Medicine and of the Society for Psychosomatic Research. He was founding editor of the *British Journal of Health Psychology*, has been an associate editor of *Psychophysiology*, the *Annals of Behavioral Medicine*, the *British of Journal Clinical Psychology* and the *Journal of Psychosomatic Research*, and is on the editorial boards of seven other journals.



Depression and Physical Illness

Edited by

Andrew Steptoe

Department of Epidemiology and Public Health University College London London, UK





> CAMBRIDGE UNIVERSITY PRESS Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo

Cambridge University Press The Edinburgh Building, Cambridge CB2 2RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org Information on this title: www.cambridge.org/9780521603607

© Cambridge University Press 2007

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2007

Printed in the United Kingdom at the University Press, Cambridge

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

ISBN-13 978-0-521-60360-7 paperback ISBN-10 0-521-60360-9 paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party internet websites referred to in this publication, and does not guarantee that any content on such websites is, or will remain, accurate or appropriate.

Every effort has been made in preparing this publication to provide accurate and up-to-date information that is in accord with accepted standards and practice at the time of publication. Although any case histories are drawn from actual cases, every effort has been made to disguise the identities of the individuals involved. The authors, editors and publishers can make no warranties that the information contained herein is totally free from error, not least because clinical standards are constantly changing through research and regulation. The authors, editors and publishers therefore disclaim all liability for direct or consequential damages resulting from the use of material contained in this publication. Readers are strongly advised to pay careful attention to information provided by the manufacturers of any drugs or equipment that they plan to use.



Contents

	List of contributors Preface	page vii xi
Part 1	Introduction to depression and its determinants	
1	Depression in the medically ill Francis Creed and Chris Dickens	3
2	Psychosocial factors, depression and illness Stephen Stansfeld and Farhat Rasul	19
Part 2	Depression and specific health problems	
3	Depression and the development of coronary heart disease Andrew Steptoe	53
4	Depression and prognosis in cardiac patients Heather S. Lett, Andrew Sherwood, Lana Watkins and James A. Blumenthal	87
5	The management of depression in patients with coronary heart disease Robert M. Carney and Kenneth E. Freedland	109
6	Depression and physical disability Brenda W. J. H. Penninx	125
7	Chronic pain and depression: twin burdens of adaptation Christina M. Van Puymbroeck, Alex J. Zautra and Peter-Panagioti Harakas	145
8	The interrelationship of depression and diabetes Dominique L. Musselman, Angela Bowling, Natalie Gilles, Hannah Larsen, Ephi Betan and Lawrence S. Phillips	165



vi	Contents	
9	Depression and chronic fatigue Peter D. White	195
10	Cancer and depression Alice E. Simon, Steven C. Palmer and James C. Coyne	211
11	Depression and obesity Lucy Cooke and Jane Wardle	238
Part 3	Biological and behavioural processes	
12	Inflammation, sickness behaviour and depression Robert Dantzer, Nathalie Castanon, Jacques Lestage, Maite Moreau and Lucile Capuron	265
13	The hypothalamic–pituitary–adrenal axis: cortisol, DHEA and mental and behavioural function Ian M. Goodyer	280
14	Depression and immunity: biological and behavioural mechanisms Michael Irwin	299
15	Smoking and depression Jon D. Kassel and Benjamin L. Hankin	321
16	Depression and physical activity Andrew Steptoe	348
17	Depression and adherence to medical advice Douglas A. Raynor, Rena R. Wing and Suzanne Phelan	369
Part 4	Conclusions	
18	Integrating clinical with biobehavioural studies of depression and physical illness Andrew Steptoe	397
	Index	409



Contributors

Ephi Betan

Georgia School of Professional Psychology Atlanta, GA USA

James A. Blumenthal

Department of Psychiatry and Behavioral Sciences Duke University Medical Center Durham, NC USA

Angela Bowling

Department of Psychiatry and Behavioral Sciences Emory University School of Medicine Atlanta, GA USA

Lucile Capuron

Department of Psychiatry and Behavioral Sciences Emory University School of Medicine Atlanta, GA USA

Robert M. Carney

Behavioral Medicine Center
Department of Psychiatry
Washington University School of
Medicine
St Louis, MO
USA

Nathalie Castanon

Integrative Neurobiology Université Victor Segalen Bordeaux 2 Bordeaux France

Lucy Cooke

Health Behaviour Unit
Department of Epidemiology and
Public Health
University College London
London, UK

James C. Coyne

Department of Psychiatry
University of Pennsylvania School of
Medicine
Philadephia, PA
USA



viii Contributors

Francis Creed

Department of Psychiatry University of Manchester Manchester, UK

Robert Dantzer

Integrative Neurobiology Université Victor Segalen Bordeaux 2 Bordeaux France

Chris Dickens

Department of Psychiatry University of Manchester Manchester, UK

Kenneth E. Freedland

Behavioral Medicine Center,
Department of Psychiatry
Washington University School of
Medicine
St Louis, MO
USA

Natalie Gilles

Department of Psychiatry and Behavioral Sciences Emory University School of Medicine Atlanta, GA USA

Ian M. Goodyer

Developmental Psychiatry Section Department of Psychiatry Cambridge University Cambridge, UK

Benjamin L. Hankin

Department of Psychology University of South Carolina Barnwell College Columbia, SC USA

Peter-Panagioti Harakas

Department of Psychology Arizona State University Tempe, AZ USA

Michael Irwin

Cousins Center for
Psychoneuroimmunology
UCLA Neuropsychiatric Institute
University of California, Los Angeles
Los Angeles, CA
USA

Jon D. Kassel

Department of Psychology University of Illinois at Chicago Chicago, IL USA

Hannah Larsen

Department of Psychiatry and Behavioral Sciences Emory University School of Medicine Atlanta, GA USA

Jacques Lestage

Integrative Neurobiology Université Victor Segalen Bordeaux 2 Bordeaux France



ix Contributors

Heather S. Lett

Department of Psychiatry and Behavioral Sciences Duke University Medical Center Durham, NC USA

Maite Moreau

Integrative Neurobiology Université Victor Segalen Bordeaux 2 Bordeaux France

Dominique L. Musselman

Department of Psychiatry and Behavioral Sciences Emory University School of Medicine Atlanta, GA USA

Steven C. Palmer

Department of Psychiatry
University of Pennsylvania School of
Medicine
Philadephia, PA
USA

Brenda W. J. H. Penninx

Department of Psychiatry
VU University Medical Centre
Amsterdam
The Netherlands

Suzanne Phelan

Department of Psychiatry and Human Behavior Brown Medical School Providence, RI USA

Lawrence S. Phillips

Department of Medicine, Division of Endocrinology Emory University School of Medicine Atlanta, GA USA

Farhat Rasul

Centre for Psychiatry, Wolfson Institute of Preventive Medicine Queen Mary's School of Medicine and Dentistry London, UK

Douglas A. Raynor

Department of Psychology, State University of New York Geneseo, NY USA

Andrew Sherwood

Department of Psychiatry and Behavioral Sciences Duke University Medical Center Durham, NC USA

Alice E. Simon

Health Behaviour Unit
Department of Epidemiology and
Public Health
University College London
London, UK

Stephen Stansfeld

Centre for Psychiatry, Wolfson Institute of Preventive Medicine Barts and the London Queen Mary's School of Medicine and Dentistry London, UK



x Contributors

Andrew Steptoe

Department of Epidemiology and Public Health University College London London, UK

Christina M. Van Puymbroeck

Department of Psychology Arizona State University Tempe, AZ USA

Jane Wardle

Health Behaviour Unit
Department of Epidemiology and
Public Health
University College London
London, UK

Lana Watkins

Department of Psychiatry and Behavioral Sciences Duke University Medical Center Durham, NC USA

Peter D. White

Department of Psychological
Medicine
Barts and the London
Queen Mary's School of Medicine and
Dentistry
London, UK

Rena R. Wing

Department of Psychiatry and Human Behavior Brown Medical School Providence, RI USA

Alex J. Zautra

Department of Psychology Arizona State University Tempe, AZ USA



Preface

The past few years have witnessed an upsurge in work on depression and physical illness. This has been coupled with renewed interest in the biological processes underpinning depression and exhortation of physicians to recognise and treat depression in their patients. There are many reasons why the study of depression and physical illness is important. First, there is growing evidence that depression and depressive symptoms are determinants of some types of physical pathology. The investigation of depression therefore contributes to knowledge about factors promoting disease development and illness progression in people with existing disorders. Second, depression is crucial to the everyday functioning and healthcare utilisation of people suffering from physical illnesses. Severe depression is a good indicator of whether daily functioning is likely to be impaired and whether there is an increased risk of suicide. Third, self-management is a central feature of many clinical conditions and disabilities. If depression impairs people's engagement in appropriate self-care, then the burden of distress and disability will be increased and the effectiveness of medical management may be compromised. Fourth, treating comorbid depression is likely to improve the wellbeing and quality of life of patients with physical illnesses, and this may have an impact on the severity and progression of underlying pathology. Bearing in mind the global burden of disease and predictions concerning the future high demands on healthcare systems attributable to depression [1], there is a pressing need to understand the relationship of depression with physical illness and disability.

This book addresses the issue of depression and physical illness from a number of perspectives, including disease aetiology, patient care, adaptation to illness, underlying biology, and behavioural and lifestyle factors. The wealth of scholarship presented attests to the vigour with which the topic is being addressed by researchers and clinicians. The book is divided into four parts. Part 1 sets the scene, with discussion of the occurrence of depression in medically ill patients and the influence of sociodemographic and psychosocial factors on clinical depression and subclinical depressive symptoms. Part 2 is devoted to chapters that assess the relationship



xii Preface

between depression and a number of health problems. Coronary heart disease is given the greatest emphasis in view of the extensive work that has been carried out on this topic, but other chapters concern disability, diabetes, chronic pain, cancer, chronic fatigue and obesity. Part 3 addresses the biological and behavioural processes that may link depression with physical health outcomes. From the perspective of biology, there are discussions of inflammatory, neuroendocrine and immunological processes, while the behavioural factors addressed include smoking, physical activity and adherence to medical advice. In Part 4, a final chapter by the editor brings together a number of the themes that have been presented in earlier contributions.

I am grateful to all the contributors who have made working on this volume such a pleasure, to Lorna Gibson and Saskia Dijk for their assistance, and to the staff of Cambridge University Press for their professionalism and courtesy.

Andrew Steptoe

REFERENCE

1. C. J. Murray, A. D. Lopez, Alternative projections of mortality and disability by cause 1990–2020: Global Burden of Disease Study. *Lancet* **349** (1997), 1498–504.