The Addison-Wesley Clinical Practice Series Behavioral Medicine in General Medical Prac - unmid Apolon offen Petla furctula 1,K tre afualiciments Primaples (argich: Same

Behavioral Medicine in General Medical Practice

Edited By

Patrick A. Boudewyns, Ph.D.

Associate Professor of Medical Psychology Department of Psychiatry Duke University Medical Center Durham, North Carolina

Francis J. Keefe, Ph.D.

Assistant Professor of Medical Psychology Department of Psychiatry Duke University Medical Center Durham, North Carolina

Clinical Practice Series Consulting Editor for Psychiatry:
H. Keith H. Brodie, M.D.
James B. Duke Professor of Psychiatry and Law
Chairman, Department of Psychiatry
Duke University School of Medicine
Durham, North Carolina
President of the American Psychiatric Association, 1982–1983



ADDISON-WESLEY PUBLISHING COMPANY
Medical/Nursing Division • Menlo Park, California
Reading, Massachusetts • London • Amsterdam
Don Mills, Ontario • Sydney

Sponsoring Editor: Richard W. Mixter Production Coordinator: Nancy Sjoberg

Copy Editor: Lois Oster

Cover and Book Design: Michael A. Rogondino

Copyright © 1982 by Addison-Wesley Publishing Company, Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the publisher. Printed in the United States of America. Published simultaneously in Canada.

Library of Congress Cataloging in Publication Data Main entry under title: The Practice of behavioral medicine.

(Clinical practice series)

Includes bibliographical references and indexes.

Contents: Pain management: Behavioral treatment of chronic pain syndromes / Francis J. Keefe and Charles J. Brown. Behavioral management of headache / Patrick A. Boudewyns and Edward Wayne Massey. Behavioral management of acute anxiety and pain of stressful medical procedures / Robert H. Shipley - [etc.]

1. Behavior therapy - Addresses, essays, lectures. 2. Medicine and psychology — Addresses, essays, lectures. I. Boudewyns, Patrick A., 1940- II. Keefe, Francis J. III. Series. [DNLM: 1. Behavioral sciences, 2. Therapeutics. WB 300 P8951

RC489.B4P68

615.8'51

81-20644

ISBN 0-201-10173-4

AACR2

ABCDEFGHIJ-MA-898765432

The authors and publishers have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications of dosage and for added warnings and precautions. This is particularly important where the recommended agent is a new and/or infrequently employed drug.

The paper in this book meets the guidelines for permanence and durability of the Committee on Production Guidelines for Book Longevity of the Council on Library Resources.

Addison-Wesley Publishing Company Medical/Nursing Division 2725 Sand Hill Road Menlo Park, California 94025

Behavioral Medicine in General Medical Practice

To my parents, Robert and Corinne Patrick A. Boudewyns

To Delia, Dan, and Anne Francis J. Keefe

Publisher's Foreword

The Clinical Practice Series provides current clinical information in a practical and accessible format. Each title in the series addresses an important topic in modern primary care medicine. Essential pathophysiology is presented in the context of clinical material; the emphasis is always on sound diagnosis and management. Recommendations on when to refer are often included.

Clinical Practice Series authors are authoritative clinicians from a variety of distinguished medical centers. Each manuscript receives extensive critical review and commentary from our consulting physicians, many of whom have worked with us to develop the editorial goals and design of the series.

The format of this volume provides direct access to information on two levels—quick reference and in-depth study. Open the book to the beginning of any chapter. Brief chapter contents guide you to the topics of immediate interest. The chapter overview summarizes the chapter's content and purpose. Marginal notes distill facts and opinions from the text and offer critical commentary when appropriate. Tables and figures summarize data and provide quick visual references. No other series offers such accessibility to practical information and comprehensive coverage of clinically important topics.

Look for these published and immediately forthcoming volumes in the Clinical Practice Series:

PUBLISHED

Behavioral Medicine in General Medical Practice Clinical Psychiatry in Primary Care Diabetes Mellitus: Problems in Management Diagnosis and Management of Cancer Diagnosis and Management of Obstetric Emergencies Diagnosis and Management of Pulmonary Disease Diagnosis and Management of Stroke and TIAs Infectious Diseases in General Medical Practice Perinatal Medicine: Practical Diagnosis and Management Practical Rheumatology The Practice of Preventive Health Care Psychosocial Aspects of Medical Practice: Children

Skin Diseases: Diagnosis and Management in Clinical

and Adolescents

To Make the Patient Ready for Anesthesia

FORTHCOMING

Death and Dying

Diagnosis and Management of Pelvic Infections A Family Approach to Health Care of the Elderly Nutritional Management in Clinical Practice **Pediatric Nutrition**

A Physician's Guide to Coronary Heart Disease Prevention

Practical Rehabilitation Medicine

Psychological Aspects of Medical Practice: Adults and the Elderly

Contributors

James A. Blumenthal, Ph.D.

Clinical Assistant Professor of Psychiatry Department of Psychiatry Duke University Medical Center Durham, North Carolina

Charles J. Brown, M.D.

Department of Psychology Duke University Durham, North Carolina

Patrick A. Boudewyns, Ph.D.

Associate Professor of Medical Psychology Department of Psychiatry Duke University Medical Center Durham, North Carolina Now at the Veteran's Administration Medical Center and the Medical College of Georgia Augusta, Georgia

Steven B. Gordon, Ph.D.

Adjunct Associate Professor of Psychiatry Rutgers Medical School Piscataway, New Jersey Private Practitioner Somerset, New Jersey Francis J. Keefe, Ph.D.

Assistant Professor of Medical Psychology Department of Psychiatry Duke University Medical Center Durham, North Carolina

Albert D. Loro, Jr., Ph.D.

Assistant Professor of Medical Psychology Department of Psychiatry Duke University Medical Center Durham, North Carolina Private Practitioner Chapel Hill, North Carolina

Edward W. Massey, M.D.

Assistant Professor of Neurology Duke University Medical Center Durham, North Carolina

Frank T. Masur, III, Ph.D.
Associate Professor
Department of Family Medicine and
Psychiatry
University of Tennessee
Center for the Health Sciences
Memphis, Tennessee

Carole S. Orleans, Ph.D.
Assistant Professor of Medical Psychology
Department of Psychiatry
Duke University Medical Center
Durham, North Carolina

John L. Reeves, II, Ph.D.
Clinical Psychologist
Pain Management Center
University of California, Los Angeles
Los Angeles, California

Robert H. Shipley, Ph.D.
Chief, Psychology Service
Durham Veteran's Administration Medical
Center
Associate Professor of Medical Psychology
Department of Psychiatry
Duke University Medical Center
Durham, North Carolina

Ronald Victor, M.D. University of California, Los Angeles School of Medicine Los Angeles, California

Redford B. Williams, Jr., M.D. Professor of Psychiatry Assistant Professor of Medicine Department of Psychiatry Duke University Medical Center Durham, North Carolina

Harold A. Ziesat, Jr., Ph.D.
Assistant Professor of Psychology
Department of Psychiatry
University of Rochester Medical Center
Rochester, New York

Contents

	Preface	xv
	Behavioral Medicine: An Introduction	1
	Behavioral Medicine versus Psychosomatic Medicine	3
	Basic Theoretical Foundations of Behavioral Medicine	4
	The Treatment Process in Behavioral Medicine	10
SECTION I	PAIN MANAGEMENT	17
Chapter 1	Behavioral Treatment of Chronic Pain Syndromes Francis J. Keefe and Charles J. Brown	19
	The Chronic Pain Experience	20
	Behavioral Analysis of Chronic Pain	20
	A Learning Theory Model of Chronic Pain	29
	Behavioral Treatment of Chronic Pain	33
	When to Refer	40
	References	40
Chapter 2	Behavioral Management of Headache Patrick A. Boudewyns and Edward Wayne Massey	42
	Headache: The Most Common Pain Complaint	43
	Medical Diagnosis and Treatment	44
	Behavioral Assessment of Functional Headache	51

	Treatment: Intervening in the $\overrightarrow{S} \rightarrow \overrightarrow{O} \rightarrow R$ System	55
	Gaining Experience in Self-Control	63
	On the Importance of Follow-Through	63
	When to Refer	64
	References	64
Chapter 3	Behavioral Management of Acute Anxiety and Pain of Stressful Medical Procedures Robert H. Shipley	68
	Fear in Stressful Medical and Dental Procedures	69
	Methods of Preparation	70
	Effect of Prior Patient Experience with a Stressor	86
	Phobias	87
	A Disclaimer and a Look Forward	87
	References	88
SECTION II	APPLICATIONS OF SELF-CONTROL TO	
	PHYSICAL DISORDERS	95
Chapter 4	A "REALISTIC" Behavioral Approach to Several Common Disorders Frank T. Masur, III	97
	Behavioral Intervention for a Variety of Disorders	98
	Conclusion	113
	When to Refer: The "REALISTIC" Model	114
	References	119
Chapter 5	Behavioral Control of Enuresis and Encopresis Steven B. Gordon	128
	Enuresis	129
	Encopresis	140
	Conclusion	143
	When to Refer	143
	References	144
Chapter 6	Behavioral Treatment of Raynaud's Disease Francis J. Keefe	145
	Physiology and Pathophysiology	147
	Medical and Surgical Treatment	149
	Behavioral Approaches to Treatment	150
	A Behavioral Treatment Program	154
	Discussion	163

	When to Refer	163
	References	164
Chapter 7	Behavioral Strategies for Treating Hypertension John L. Reeves, II, and Ronald G. Victor	166
	Behavioral Intervention in Hypertension	168
	Using Behavioral Techniques in the Office	179
	When to Refer	182
	References	182
SECTION III	PREVENTION THROUGH HABIT CONTROL	189
Chapter 8	Type A Behavior Pattern and Coronary Artery Disease James A. Blumenthal and Redford B. Williams, Jr.	191
	Pathophysiology of Coronary Artery Disease	193
	Origins of the Type A Behavior Pattern	195
	Assessment of the Type A Behavior Pattern	196
	Association of Type A and Coronary Disease	200
	Psychophysiologic Mechanisms	204
	Modifying the Type A Behavior Pattern	206
	Conclusions	211
	When to Refer	211
	References	212
Chapter 9	Treatment for Eating Disorders Albert D. Loro, Jr.	217
	Obesity	218
	Anorexia Nervosa	228
	Cyclical Eating Disorders	230
	When to Refer	233
	References	233
Chapter 10	Treatment of Cigarette Smoking Robert H. Shipley and Carole S. Orleans	237
	Smoking Incidence and Beliefs about Smoking	238
	Physician Intervention: Research Findings	239
	Intervention Guidelines	241
	When to Refer: The Specialized Intervention	256
	References	262

xiv CONTENTS

Chapter 11	Adhering to Medical Regimen Harold A. Ziesat, Jr.	269
	Assessment of Noncompliance Therapeutic Techniques	271 274
	When to Refer References	291 291
	Closing Comments	296
	Index	298

Preface

The purpose of this book is to acquaint primary care physicians with the field of behavioral medicine. Clinical applications of behavioral science techniques to a wide range of patients seen by primary care physicians are reviewed. The disorders selected for review are those for which research evidence indicates that behavioral techniques provide a viable treatment alternative. Although clinical material is stressed throughout the book, each author provides a brief description of the research basis for behavioral treatment programs.

A second purpose of this book is to furnish the physician with enough information about behavioral approaches so that the patients who are appropriate for such treatment can be identified and referred.

Many of the treatment programs discussed in this book are relatively simple procedures that could be carried out by the interested physician and/or trained office personnel. Some specialized techniques, however, are very time consuming, technically involved, and may require expensive equipment. The question of when to refer a patient for behavioral treatment must depend to some extent on the physician's interest and time constraints, but also on the complexity of the procedure. For these reasons, we have asked all contributors to include a "When to Refer" section in their chapters. Most of these sections are specific to the disorder(s) discussed in the particular chapter. In Chapter 4, however, Dr. Masur offers a more general model to help physicians determine when to refer patients for specialized behavioral treatment. This

model, identified by the acronym "REALISTIC," may be applied to any disorder for which behavioral treatment is helpful.

Where to refer is another problem. In our closing comments we have suggested several institutions and organizations that may be of help in locating a specialist. Behavioral medicine is a new field. Finding referral sources outside a large medical center may be difficult. On the other hand, many psychology internships and psychiatry residency programs are now offering specialized training in behavioral medicine. Continuing education workshops in behavioral medicine are available through a variety of sources. Several organizations, such as the Biofeedback Society of America, the Association for the Advancement of Behavior Therapy, the Society of Behavioral Medicine, and the American Psychological Association, offer training workshops at their annual conventions, as well as at other times throughout the year. Also, several medical centers have started offering regular continuing education programs. Some fellowships are available.

Given the increasing availability of training opportunities, we expect that most licensed clinical psychologists and some psychiatrists will soon be familiar with many of the behavioral treatment techniques described in this book.

This volume does not exhaust all the behavioral interventions that have been developed to treat medical disorders and health related behaviors. New techniques and new applications of old ones are suggested regularly in the literature. For example, we chose not to include a chapter on insomnia, even though several effective behavioral techniques have been developed to treat sleep disorders. This decision was made because all the controlled outcome studies on the effectiveness of these treatments for sleep disorders have been carried out on samples of college students with initial onset insomnia only. There is little evidence that these techniques work for older, more chronic insomniacs who are most likely to consult their physicians about the problem.

Similarly, a chapter on addiction and/or alcoholism might have been useful. There is at least one behavioral intervention that holds some promise for the alcoholic. However, successful treatment for alcoholism, behavioral or otherwise, involves intensive inpatient and outpatient treatment, usually in a group therapeutic community setting. Also, there is little evidence supporting the effectiveness of behavioral treatment of alcoholic problems when compared to more traditional approaches. Several other interventions were not included for similar reasons.

As the field of behavioral medicine develops new effective applications, future editions of this book should grow with it.

In editing this book, we owe a debt of gratitude to many

people. First, we wish to thank Dr. H. Keith H. Brodie for giving us the opportunity to develop the book and for his editorial advice. Ms. Jeanine C. Wheless was most helpful in offering editorial advice and for making the book more readable. Chester L. Dow, Richard W. Mixter, and Helene Harrington, from Addison-Wesley Publishing Company, were also very cooperative in advising as to the style and format of the book with an aim toward keeping it more easily referenced by physicians. Others we would like to thank include: Dr. David Shapiro for his comments on Chapter 7; Mrs. Jane Stone, Ms. Betsy Synder, Mrs. Jane Clark, and Dr. Linda Vierling for their help with Chapter 4; and Ms. Kit Chappel, Ms. Debbie Russell, Ms. Joanne Robb, and Mrs. Cynthia Mongeon for their assistance in the preparation of the manuscript.

We also wish to express our thanks to our colleagues in the Division of Medical Psychology and the Department of Psychiatry at Duke, where behavioral medicine is alive and prospering. Finally, we wish to thank our patients who have been our principal source of learning.

Patrick A. Boudewyns
Francis J. Keefe

Behavioral Medicine: An Introduction

Francis J. Keefe

Patrick A. Boudewyns

Brief Contents

Behavioral Medicine versus Psychosomatic Medicine 3
Basic Theoretical Foundations of Behavioral Medicine 4

Operant Conditioning 5
Classical Conditioning 7

Modeling 9
Summary 10

The Treatment Process in Behavioral Medicine 10

Problem Identification 10

Measurement and Functional Analysis 11

Matching Treatment to Patients 13

Assessment of Ongoing Therapy 14

Final Evaluation of Treatment Outcome 14

Overview

Behavioral medicine is the field concerned with the development of behavioral science knowledge and techniques relevant to the understanding of physical health and illness and the application of this knowledge and these techniques to prevention, diagnosis, treatment, and rehabilitation. The distinguishing characteristics of behavioral medicine are described and compared to psychosomatic medicine. Three theoretical models have had a major impact on behavioral medicine: operant conditioning, classical conditioning, and modeling. The chapter concludes with a discussion of the treatment process in behavioral medicine.

Behavioral medicine is a new and emerging entity that is generating a great deal of excitement and interest. The above definition of behavioral medicine was arrived at by a distinguished group of behavioral and biomedical scientists meeting at the Yale Conference on Behavioral Medicine in 1976.

This definition underscores three important points. First, behavioral medicine is an interdisciplinary field involving both biomedical disciplines (for example, neurology, cardiology, and physiology) and behavioral disciplines (for example, anthropology, sociology, epidemiology, and psychology). Second, behavioral medicine is concerned with research—that is, the development of knowledge of how behavior and health or illness are related. Third, behavioral medicine is also concerned with clinical applications of behavioral science knowledge. Reports of successful application of techniques, such as contingency management, biofeedback, relaxation, and other procedures, have generated much of the present interest in the field of behavioral medicine.

The field of behavioral medicine is becoming well established. Shortly after the Yale Conference was held, the Academy of Behavioral Medicine Research was founded. The academy is composed of distinguished behavioral and biomedical scientists who have made a contribution to this field. In 1978 the Society of Behavioral Medicine was founded. In that same year the *Journal of Behavioral Medicine* was first published. In recent years additional journals have appeared, and numerous conferences and workshops in behavioral medicine have been held. Many medical schools either have developed or are in the process of developing programs in behavioral medicine. The National Institute of Health now has a separate study committee that reviews research proposals relevant to the field.

Clinical applications of behavioral medicine principles and techniques have yielded promising results. Subsequent chapters provide an in-depth discussion of treatment techniques used with such common medical disorders as headaches, hypertension, obesity, and smoking.

The purpose of this chapter is to provide an introduction to the field of behavioral medicine. We begin by comparing behavioral medicine and psychosomatic medicine. Basic concepts and principles of behavioral medicine are then described. Finally, we describe the basic steps of the treatment process in behavioral medicine.