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978-1-108-46361-4 — Case Studies: Stahl's Essential Psychopharmacology
Volume 5
Edited by Nevena V. Radonjić , Thomas L. Schwartz , Stephen M. Stahl
Frontmatter
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CASE STUDIES

Stahl's Essential Psychopharmacology
Volume 5

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CASE STUDIES: **Stahl's Essential
Psychopharmacology**

Volume 5

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accord with accepted standards and practice at the time of publication. Although case histories are drawn from
actual cases, every effort has been made to disguise the identities of the individuals involved. Nevertheless, the
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Introduction

Following on from the success of the launch volume of *Case Studies* in 2011, we are very pleased to present a fifth collection of new clinical cases. *Stahl's Essential Psychopharmacology* started in 1996 as a textbook (currently in its fifth edition) on how psychotropic drugs work. It expanded to a companion Prescriber's Guide in 2005 (currently in its eighth edition) on how to prescribe psychotropic drugs. In 2008, a website was added (www.cambridge.org/core/publications/collections/stahl-online) with both of these books available online in combination with several more, including an *Illustrated* series of books covering specialty topics in psychopharmacology. The *Case Studies* shows how to apply the concepts presented in these previous books to real patients in a clinical practice setting.

Why a case book? For practitioners, it is necessary to know the science and application of psychopharmacology – namely, both the mechanism of action of psychotropic drugs and the evidence-based data on how to prescribe them – but this is not sufficient to become a master clinician. Many patients are beyond the data and are excluded from randomized controlled trials. Thus, a true clinical expert also needs to develop the art of psychopharmacology: namely, how to listen, educate, destigmatize, mix psychotherapy with medications, and use intuition to select and combine medications. The art of psychopharmacology is especially important when confronting the frequent situations where there is no evidence on which to base a clinical decision.

What do you do when there is no evidence? The short answer is to combine the science with the art of psychopharmacology. The best way to learn this is probably by seeing individual patients. Here we hope you will join us and peer over our shoulders to observe 28 complex cases from our own clinical practice.

Each case is anonymized in identifying details, but incorporates real case outcomes that are not fictionalized. Sometimes more than one case is combined into a single case. Hopefully, you will recognize many of these patients as similar to those you have seen in your own practice (although they will not be exactly the same patient, as the identifying historical details are changed here to comply with disclosure standards, and many patients can look very much like many other patients you know, which is why you may find this teaching approach effective for your clinical practice).

We have presented cases from our clinical practice for many years online (e.g., in the master psychopharmacology program of the Neuroscience Education Institute [NEI] at neiglobal.com) and in live courses (especially at the annual NEI Psychopharmacology Congress). Over the years, we have been fortunate to have many young psychiatrists from our universities, and indeed from all over the world, sit in on our practices to observe these cases, and now we attempt to bring this information to you in the form of a fifth case book.

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Introduction

The cases are presented in a novel written format in order to follow consultations over time, with different categories of information designated by different background colors and explanatory icons. For those of you familiar with *The Prescriber's Guide*, this layout will be recognizable. Included in the case book, however, are many unique sections as well; for example, presenting what was on the author's mind at various points during the management of the case, and also questions along the way for you to ask yourself in order to develop an action plan.

Additionally, these cases incorporate ideas from the recent changes in maintenance of certification standards by the American Board of Psychiatry and Neurology for those of you interested in recertification in psychiatry. Thus, there is a section on Performance in Practice (called here "Confessions of a psychopharmacologist"). This is a short section at the end of every case, looking back and seeing what could have been done better in retrospect. Another section of most cases is a short psychopharmacology lesson or tutorial, called the "Two-minute tutorial," with background information, tables, and figures from literature relevant to the case in hand.

Drugs are listed by their generic and brand names for ease of learning. Indexes are included at the back of the book for your convenience. Lists of icons and abbreviations are provided in the front of the book. Finally, this fifth collection updates the reader on the newest psychotropic drugs and their uses, and adopts the language of DSM-5.

The case-based approach is how this book attempts to complement "evidence-based prescribing" from other books in the *Essential Psychopharmacology* series, plus the literature, with "prescribing-based evidence" derived from empiric experience. It is certainly important to know the data from randomized controlled trials, but after knowing all this information, case-based clinical experience supplements that data. The old saying that applies here is that wisdom is what you learn *after* you know it all; and so, too, for studying cases after seeing the data.

A note of caution: we are not so naïve as to think that there are not potential pitfalls to the centuries-old tradition of case-based teaching. Thus, we think it is a good idea to point some of them out here in order to try to avoid these traps. Do not ignore the "law of small numbers" by basing broad predictions on narrow samples or even a single case.

Do not ignore the fact that if something is easy to recall, particularly when associated with a significant emotional event, we tend to think it happens more often than it does.

Do not forget the recency effect, namely, the tendency to think that something that has just been observed happens more often than it does.

According to editorialists¹, when moving away from evidence-based medicine to case-based medicine, it is also important to avoid:

- Eloquence or elegance-based medicine
- Vehemence-based medicine
- Providence-based medicine
- Diffidence-based medicine
- Nervousness-based medicine
- Confidence-based medicine

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Introduction

We have been counseled by colleagues and trainees that perhaps the most important pitfall for me to try to avoid in this book is “eminence-based medicine,” and to remember specifically that:

- Radiance of gray hair is not proportional to an understanding of the facts
- Eloquence, smoothness of the tongue, and sartorial elegance cannot change reality
- Qualifications and past accomplishments do not signify a privileged access to the truth
- Experts almost always have conflicts of interest
- Clinical acumen is not measured in frequent flier miles

Thus, it is with all humility as practicing psychiatrists that we invite you to walk a mile in our shoes: experience the fascination, the disappointments, the thrills, and the learnings that result from observing cases in the real world.

Dr. Schwartz would like to thank all of those whose goal it is to teach clinicians to become better treaters of their patients, given our common goal is to improve their symptoms and reduce their suffering.

Dr. Radonjić would like to sincerely thank Dr. Thomas Schwartz, SUNY Upstate, for providing mentorship, support, and constructive feedback in the process of writing this manuscript, and Dr. Stephen Stahl for valuable input and guidance that elevated the quality of the case studies. Special thanks to Dr. Nada Zečević, University of Connecticut, and Dr. Nataša Petronijević, University of Belgrade, for continuous support during academic development. Finally, Dr. Radonjić would like to express gratitude to her family for modeling and instilling a love for research, teaching, and education.

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References

- 1 Isaccs D, Fitzgerald D. Seven alternatives to evidence based medicine. *BMJ* 1999; 319:7225

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List of icons



Pre- and post-test self-assessment question; question



Patient evaluation on intake; patient evaluation on initial visit



Psychiatric history



Social and personal history



Medical history



Family history



Medication history



Current medications



Psychotherapy history; psychotherapy moment



Mechanism of action moment

List of icons



Attending physician's mental notes



Further investigation



Case outcome; use of outcome measures



Case debrief



Take-home points



Performance in practice: confessions of a psychopharmacologist



Tips and pearls



Two-minute tutorial

Abbreviations

5-HT	serotonin	BB	beta blocker
5-HT _{1A} / 2A, etc.	serotonin (receptors)	BDNF	brain-derived neurotrophic factor
α ₁ A	alpha 1A receptor	BED	binge eating disorder
α ₁ B	alpha 1B receptor	BIF	borderline intellectual functioning
α ₂	alpha 2 receptor	BMI	body mass index
α ₂ A	alpha 2A receptor	BN	bulimia nervosa
σ ₁	sigma 1 receptor	BP	bipolar disorder
AA	Alcoholics Anonymous	BP1	bipolar I disorder
ACC	anterior cingulate cortex	BP2	bipolar II disorder
ACE	angiotensin-converting enzyme	BPD	borderline personality disorder
ACh	acetylcholine	BZ	benzodiazepine
AChR	acetylcholine receptors	BZRA	benzodiazepine receptor agonist
ACTH	adrenocorticotrophic hormone	CAD	coronary artery disease
ADHD	Attention-Deficit/ Hyperactivity Disorder	CAGE	cut down, annoyed, guilty, and eye opener
AIMS	Abnormal Involuntary Movement Scale	CAM	complementary and alternative medicine
AMPA	alpha-amino-3-hydroxy- 5-methyl-4-isoxazole- propionic acid	CBC	complete blood count
AMPAR	alpha-amino-3-hydroxy- 5-methyl-4-isoxazole- propionic acid receptor	CBT	cognitive behavioral therapy
AMRS	Altman Mania Rating Scale	CD	covert dyskinesia
ANA	antinuclear antibodies	CIWA	Clinical Institute Withdrawal Assessment
ANC	absolute neutrophil count	CKD	chronic kidney disease
ASD	autism spectrum disorder	CMP	comprehensive metabolic panel
ASRS	Adult ADHD Self-Report Scale	CNS	central nervous system
aTL	anterior temporal lobe	COWS	Clinical Opiate Withdrawal Scale
AUD	alcohol use disorder	CPG	clinical practice guideline
BARS	Barnes Akathisia Rating Scale	CPT	cold pressor time
		CR	controlled release
		Cre	creatinine

List of Abbreviations

CRF	corticotropin-releasing factor	EPS	extrapyramidal symptom/s
CRPS	complex regional pain syndrome	ER	emergency room; extended release
CSTC	cortico-striatal-thalamo-cortical circuit	ERP	exposure and response prevention
CUD	cannabis use disorder	ERs	estrogen receptors
CVS	cerebrovascular system	ESR	erythrocyte sedimentation rate
CYP450	cytochrome P450	FBG	fasting blood glucose
D ₂	dopamine-2 receptor	FDA	US Food and Drug Administration
D ₃	dopamine-3 receptor	FM	fibromyalgia
DA	dopamine	FSH	follicle-stimulating hormone
dACC	dorsal anterior cingulate cortex	ft4	free thyroxine
DAT	dopamine transporter	GABA	gamma-aminobutyric acid
DBS	deep brain stimulation	GAD	generalized anxiety disorder
DBT	dialectical behavioral therapy	GAD7	Generalized Anxiety Disorder Questionnaire
DDP	dynamic deconstructive psychotherapy	GED	general educational development
DID	dissociative identity disorder	GERD	gastroesophageal reflux disease
DLPFC	dorsolateral prefrontal cortex	GFR	glomerular filtration rate
DM2	diabetes mellitus type 2	GHB	γ-hydroxybutyrate
DORA	dual orexin receptor antagonist	GI	gastrointestinal
DSM-5	<i>Diagnostic and Statistical Manual of Mental Disorders</i> , 5th edn.	GluR 1–4	glutamate receptor 1–4
dTMS	deep transcranial magnetic stimulation	GlyT	glycine transporter
ECT	electroconvulsive therapy	GPER1	G-protein coupled ER1
ED	erectile dysfunction	GWAS	genome-wide association studies
EEG	electroencephalogram	H1	histamine 1 receptor
EKG	electrocardiogram	HbA1c	hemoglobin A1c
EMDR	eye movement desensitization and reprocessing	HIV	human immunodeficiency virus
ENDS	electronic nicotine delivery system	HLD	hyperlipidemia
EPDS	Edinburgh Postnatal Depression Scale	HPA	hypothalamic–pituitary–adrenal
		HPL	hyperprolactinemia
		HRT	hormone replacement therapy

List of Abbreviations

HSDD	hypoactive sexual desire disorder	NaSSA	norepinephrine antagonist / selective serotonin antagonist
HTN	hypertension		
IBS	irritable bowel syndrome	NDR1	norepinephrine–dopamine reuptake inhibitor
ICU	intensive care unit		
ID	intellectual disability	NE	norepinephrine
IM	intramuscular	NET	norepinephrine transporter
IPT	interpersonal psychotherapy		
IR	immediate release	NMDA	N-methyl-D-aspartate
IUD	intrauterine device	NMDAR	N-methyl-D-aspartate receptor
IV	intravenous		
LAI	long-acting injectable	NMJ	neuromuscular junction
LC	locus coeruleus	NMS	neuroleptic malignant syndrome
LD	learning disability		
LDL	low-density lipoproteins	NNH	number needed to harm
LFT	liver function testing	NR1	NMDA receptor subunit 1
LH	luteinizing hormone	NR2	NMDA receptor subunit 2
LMWH	low-molecular-weight heparin	NR3	NMDA receptor subunit 3
LSD	lysergic acid diethylamide	NRI	norepinephrine reuptake inhibitor
M1/M3/M5	muscarinic receptor 1/3/5	NRT	nicotine replacement therapy
MAOI	monoamine oxidase inhibitor	NSAIDs	nonsteroidal anti-inflammatory drugs
MC	myasthenic crisis	OC	oculogyric crisis
MDD	major depressive disorder	OCD	obsessive–compulsive disorder
MDE	major depressive episode	OCI-R	Obsessive–Compulsive Inventory – revised
MDMA	methylenedioxymethamphetamine	OCP	oral contraceptive pill
MDQ	Mood Disorders Questionnaire	OCPD	obsessive–compulsive personality disorder
MG	myasthenia gravis	ODD	oppositional defiant disorder
mPFC	medial prefrontal cortex	ODT	oral dissolving tablet
MRI	magnetic resonance imaging	OFC	orbital frontal cortex
MS	multiple sclerosis	OSA	obstructive sleep apnea
mTOR	mammalian/mechanistic target of rapamycin	OTC	over-the-counter
NA	nucleus accumbens	OUD	opioid use disorder
NAC	N-acetylcysteine		

List of Abbreviations

PAHs	polycyclic aromatic hydrocarbons	SAMe	S-adenosyl-methionine
PAM	positive allosteric modulator	SARI	serotonin antagonist / reuptake inhibitor
PC12	pheochromocytoma cell line	SCARED	Screen for Child Anxiety-Related Disorders
PCC	primary care clinician	SERT	serotonin transporter
PCL 5	PTSD Checklist for DSM-5	SIADH	syndrome of inappropriate antidiuretic hormone
PCP	phencyclidine	SIB	self-injurious behavior
PD	panic disorder	SLC6	solute carrier gene family
PDD	pervasive developmental disorders	SMM	serotonin multimodal
PDP	psychodynamic psychotherapy	SNRI	serotonin–norepinephrine reuptake inhibitor
PFC	prefrontal cortex	SP	schizophrenia
PHQ-9	Patient Health Questionnaire	SPARI	serotonin partial agonist / reuptake inhibitor
PLLR	Pregnancy And Lactation Labeling Rule	SRI	serotonin reuptake inhibitor
PMADs	perinatal mood and anxiety disorders	SSRI	selective serotonin reuptake inhibitor
PMC	prefrontal motor cortex	SSS	Symptom Severity Score
POCS	Perinatal Obsessive Compulsive Scale	STEPPS	systems training for emotional predictability and problem-solving
POMC	pro-opiomelanocortin		
PPD	pack per day		
PRN	pro re nata (as needed)		
PT/INR	prothrombin time / international normalized ratio	SUD	substance use disorder
PTSD	post-traumatic stress disorder	TCA	tricyclic antidepressant
QTc	QT corrected for heart rate	TD	tardive dyskinesia
RCT	randomized controlled trial	TEAs	treatment-emergent activations
REM	rapid eye movement	TFP	transference-focused therapy
REMS	risk evaluation and mitigation strategy	TGA	triglycerides
RID	relative infant dose	Tmax	peak plasma time
RMS	Rapid Mood Screener	TMN	tuberomammillary nucleus
SAD	seasonal affective disorder	TMS	transcranial magnetic stimulation
		TPJ	temporo-parietal junction

List of Abbreviations

TRD	treatment-resistant depression	VMAT2	vesicular monoamine transporter 2
TRS	treatment-resistant schizophrenia	VMPFC	ventromedial prefrontal cortex
TSH	thyroid-stimulating hormone	VMS	vasomotor symptoms
UDS	urine drug screen	VNS	vagal nerve stimulation
UTI	urinary tract infection	VPA	valproic acid
VA	Veterans Affairs	VTA	ventral tegmental area
VEGF	vascular endothelial growth factor	WHO	World Health Organization
VLPO	ventrolateral preoptic area	WNL	within normal limits
		Y-BOCS	Yale–Brown Obsessive Compulsive Scale