

Understanding treatments for Depression, Bipolar Disorder and Eating Disorders

Understanding why one treatment works well for one person with depression, bipolar disorder or bulimia nervosa, and not for others, is driving groundbreaking research in the Mental Health Clinical Research Unit, in the Department of Psychological Medicine at the University of Otago's Christchurch School of Medicine. The Clinical Research Unit is a joint venture with the Mental Health Division of the Canterbury District Health Board.

Professor Peter Joyce's research group wants to understand why a particular antidepressant drug works well for about fifty percent of people, but not for others.

"We would like to understand who responds to psychotherapy, and whether these are the same or different people who respond to antidepressant drugs. We would like to be able to improve patient outcomes by being better able to match the best treatment for each individual patient."

Their research is focussed on three main areas:

- Clinical Trials
- The linking of molecular genetics to clinical practice
- Laboratory based projects aimed at understanding the molecular mechanisms by which antidepressants work.

CLINICAL TRIALS

Depression

Professor Joyce's group is now onto their fourth treatment of depression study in the past decade. The work has included large randomised trials of antidepressant drugs (fluoxetine versus nortriptyline) and of psychotherapies (interpersonal psychotherapy versus cognitive therapy).

Currently the group is comparing traditional cognitive therapy with a newer schema focussed therapy, which has a greater focus on the underlying 'deeper' assumptions we make about ourselves and which contribute to our more conscious 'self thoughts'. The long term objective of this series of research projects is to be able to better advise patients with depression, as to which treatments are most likely to work, and if that is an antidepressant, whether or not they would be likely to develop side effects from the drug.

Bipolar Disorder

The Christchurch group has just completed a study helping people who gained weight with their medication (sodium valproate) lose weight, funded by the Stanley Foundation in the United States.



(l-r) Dr Martin Kennedy and Professor Peter Joyce

Key words:

- depression, bipolar disorder, anorexia nervosa, bulimia nervosa

About mood and eating disorders:

- depression is the major cause of disability in the world, bipolar disorder the sixth
- eating disorders are the third leading cause of impairment in young women
- anorexia nervosa has the highest mortality of any mental disorder.

Aims of the research:

- to improve treatment outcomes for people with depression, bipolar disorder and bulimia nervosa, by understanding which treatments work for which patients.

What our research has found:

- some people with depression will do much better with 'serotonin' type antidepressants than with 'noradrenergic' antidepressants and vice versa
- for people with depression, interpersonal psychotherapy and cognitive therapy are generally of comparable effectiveness, but for people with certain personality traits cognitive therapy may be better
- for women with anorexia nervosa, specialist psychotherapies may be worse than a supportive, educational, clinical management approach
- we have identified genes in depressed patients
 - (a) which influence how suspicious someone becomes when depressed,
 - (b) which predicts differential antidepressant response in young people,
 - (c) which predicts some antidepressant drug side effects, and
 - (d) which are related to personality types.

One of the current HRC projects is comparing how two different psychological treatments improve an individual's social and interpersonal functioning, while also taking medication to prevent severe episodes of depression and/or mania. This research project also aims to examine a range of factors, such as difficulties with attention and concentration, and mild depressive symptoms which interfere with quality of life.

Eating disorders

Over the past decade the Christchurch group has completed two psychotherapy trials in women with eating disorders, one in bulimia nervosa and one in anorexia nervosa. A new trial will begin in 2005 and will compare traditional cognitive therapy with schema focussed therapy and a 'nutrition and appetite enhanced' cognitive therapy for women with bulimia or binge eating. One of the questions in this study is whether greater protein intake, and greater awareness of appetite, may decrease the urge to binge eat.

CAN MOLECULAR GENETICS HELP CLINICIANS?

The majority of patients in the clinical trials consent to giving DNA for genetic analyses, which are performed in Dr Martin Kennedy's Gene Structure and Function Laboratory. The group has reported a series of findings which may assist clinicians. For instance, people have two different forms of a protein which pumps tricyclic antidepressant drugs out of the brain; which polymorphism of the gene they have influences the likelihood that the individual will develop postural hypotension (a drop in blood pressure when standing up). A polymorphism in a gene involved in neurotransmission predicts whether a young person with depression may have a better response to fluoxetine or nortriptyline.

A polymorphism in a gene which is involved in the synthesis of dopamine influences how paranoid a person may become when they are depressed. Whether or not an individual is markedly perfectionistic or an extreme worrier is influenced by a polymorphism in another dopamine related gene.

LABORATORY BASED PROJECTS

In Dr Kennedy's laboratory, which is located in the Department of Pathology at the Christchurch School of Medicine and Health Sciences, antidepressant drugs are being given to rats and to neurons in cell culture, to examine what genes are turned on or turned off. From this laboratory work it is hoped that new genes may be identified which influence whether or not antidepressant drugs work.

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