Depression and Chronic Medical Illness

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Depression and Chronic Medical Illness

- Increased prevalence of major depression in the medically ill
- Depression amplifies physical symptoms associated with medical illness
- Comorbidity increases impairment in functioning
- Depression decreases adherence to prescribed regimens
- Depression is associated with adverse health behaviors (diet, exercise, smoking)
- Depression increases mortality
Adverse Bidirectional Interaction

Major Depression

- Smoking
- Sedentary lifestyle
- Obesity
- Lack of adherence to medical regimens
- Psychophysiologic
- Insulin sensitivity
- Autonomic NS
- Inflammatory markers

- Medical illness at earlier age
- Poor symptom control
- ↑ functional impairment
- ↑ complications of medical illness
- ↑ mortality

Katon et al. Biol Psychiatry 2003
Major Depression Prevalence: Chronic Medical Illness

- Heart disease 15 to 23%
- Diabetes 11 to 12%
- Chronic obstructive pulmonary disease (COPD) 10 to 20%

Depression Prevalence Is Especially High in Neurological Illness

Lifetime prevalence

- Parkinson’s disease: 40-50% lifetime prevalence
- Huntington’s disease: 40% lifetime prevalence. Depression may antedate chorea by years
- Multiple sclerosis: 10-50% lifetime prevalence
- Alzheimer’s disease: 15-55% prevalence
- CVAs: 30-50% lifetime prevalence

Impact of Depression In Chronic Medical Illness

- Economic Impact
- Maladaptive Effects
- Morbidity And Mortality
- Treatment Implications
Health Care Costs Are Higher in Patients With Diabetes and Depression

Title: Health Care Costs in Patients with Diabetes and Depression

christy walsh, 2/21/2005
Impact of Depression In Chronic Medical Illness

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4 Maladaptive Effects of Affective Illness on Chronic Medical Illness

- Amplification of somatic symptoms (especially pain) and functional disability
- Increased adverse health behaviors (obesity, smoking, sedentary lifestyle)
- Decreased self-care and adherence to medical regimens
- Direct maladaptive physiologic effects
  - Modulated by autonomic nervous system, hypothalamus, and immunologic effects

Relationship of Major Depression to Diabetes Symptoms – Odds Ratios

Ludman et al. *Gen Hosp Psychiatry*, 2004
Number of Diabetes Complications (≥2) also Increases Number of Diabetes Symptoms

- Cold hands and feet: 1.51
- Numbness in hands and feet: 1.96
- Pain in hands and feet: 1.85
- Polyuria: 1.27
- Excessive hunger: 0.97
- Abnormal thirst: 1.27
- Shakiness: 1.69
- Blurred vision: 1.53
- Feeling faint: 1.53
- Daytime sleepiness: 1.26

Pain $\leftrightarrow$ Depression

Bidirectional Relationship
Treatment of Depression Improves Pain Outcomes in Patients With Arthritis and Depression

Arthritis Interference With Daily Activities (0-10)

Estimates

Baseline 3 months 6 months 12 months
F/U F/U F/U

Usual Care
Intervention

Lin et al. JAMA, 2003
Depression Has Larger Impact on Days Reduced Household Work Than Diabetes Complications

Von Korff et al. *Psychosom Med*, 2005
Depression Decreases Adherence to Medical Regimens

- Depression may affect adherence by
  - Adversely influencing expectations and benefits about efficacy of treatment
  - Increasing withdrawal and social isolation
  - Reducing cognitive functioning and memory
  - Influencing dietary choices and reducing energy to exercise and follow self-management regimens (ie, checking blood glucose)
Meta-Analysis of the Adverse Effect of Depression on Patient Adherence

• Compared to nondepressed patients, the odds are 3 times greater that depressed patients would be nonadherent with medical treatment recommendations

Depression Decreases Medication Adherence in Patients With Diabetes

Lin E et al., *Diabetes Care*, 2004

![Depression Decreases Medication Adherence in Patients With Diabetes](chart.png)

- **Non Depressed**
  - Oral Hypoglycemic: 18.8%
  - Lipid Lowering Meds: 19.3%
  - ACE Inhibitors: 21.6%

- **Depressed**
  - Oral Hypoglycemic: 24.5%
  - Lipid Lowering Meds: 27.2%
  - ACE Inhibitors: 27.9%
Depression Is Associated With an Increased Percent of Smoking

Adjusted for demographics, medical comorbidity, diabetes severity, diabetes type and duration, treatment type, HbA1c and clinic.
Katon et al, Diabetes Care, 2004
Depression is Associated with an increased BMI >30 kg/m² by

p<.001; Major>None
p<.01; Minor>None
N=4225

Adjusted for demographics, medical comorbidity, diabetes severity, diabetes type and duration, treatment type, HbA1c and clinic
Katon et al, Diabetes Care, 2004
Depression Is Associated With Higher Percentage with HbA1c > 8%

Adjusted for demographics, medical comorbidity, diabetes severity, diabetes type and duration, treatment type and clinic.
Katon et al, Diabetes Care, 2004
Depression Is Associated With a Higher Number of Cardiac Risk Factors

Katon et al, J Gen Intern Med, 2004
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Major Depression: Association with Complications & Mortality

- Microvascular Complication
- Macrovascular Complication
- Mortality
- Foot Ulcers
- Dementia

Graphical representation showing the association of major depression with complications and mortality, with specific ratios indicated for each category.
Major Depression: Association with Hospitalizations & ER Visits

- Serious Hypoglycemic
- ICU Admission
- Ambulatory Care
- Sensitive Hospitalizations

Graph showing:
- 1.42
- 2.23
- 1.41

X-axis: 0 - 4
Depression Associated With Increased Mortality Post-Myocardial Infarction

Cox model hazard ratio for 6-month mortality associated with depression: 5.74 (95% CI: 4.61-6.87) p=.0006

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Pathways Randomized Controlled Trial

- Participants randomly assigned to Pathways nurse collaborative care intervention (N = 165) vs. usual care (N = 164)
- Usual Care
  - Primary care or referral to specialty MH care as available
- Pathways Care
  - Collaborative/stepped care disease management program for depression in primary care

Katon et al. *Arch Gen Psych* 2004
Treatment Protocol

1) Behavioral Activation / Pleasant Events Scheduling
2) Antidepressant medication
   – usually an SSRI or other newer antidepressant
   OR
Problem Solving Treatment in Primary Care (PST-PC)
   – 6-8 individual sessions followed by monthly group maintenance sessions
3) Maintenance and Relapse Prevention Plan
   - for patients in remission

Katon et al. Arch Gen Psych  2004
Collaborative Care

Patient
- Chooses treatment in consultation with provider(s)

Primary care provider (PCP)
- Refers; prescribes antidepressant medications

+ Depression Care Manager
+ Consulting Psychiatrist
Intervention vs Control Differences on Mean SCL Depression Scores (Range 0 – 4).

Katon et al. Arch Gen Psych 2004
Patient Global Improvement

% Very Improved from Baseline

Usual Care (N=165)
Intervention (N=164)

6-month 12-month Follow-Up Visit

Katon et al. Arch Gen Psych 2004
Intervention vs Control Differences on Mean HbA$_{1c}$

Katon et al. *Arch Gen Psych* 2004
Two Collaborative Care Trials Demonstrate Improved Depression Care in Diabetes Lowers Total Health Care Costs Over 2 Years

Katon et al. Diabetes Care 2006, Simon et al Arch Gen Psychiatry 2007
TEAMcare
Clinical Trial & Program
“Multi-Condition Collaborative Care”

For chronic conditions and depression to address:

A1c
Blood pressure
Cholesterol (LDL)
Depression
Original Article

Collaborative Care for Patients with Depression and Chronic Illnesses

Wayne J. Katon, M.D., Elizabeth H.B. Lin, M.D., M.P.H., Michael Von Korff, Sc.D., Paul Ciechanowski, M.D., M.P.H., Evette J. Ludman, Ph.D., Bessie Young, M.D., M.P.H., Do Peterson, M.S., Carolyn M. Rutter, Ph.D., Mary McGregor, M.S.N., and David McCulloch, M.D.


Background

Patients with depression and poorly controlled diabetes, coronary heart disease, or both have an increased risk of adverse outcomes.
TEAMcare Meets the Triple Aim

- Improved quality of care, including Patient Satisfaction
- Improved Outcomes
- Cost Savings
TEAMcare is a truly patient-centered approach that enhances a primary care team to deliver optimal care for both physical and mental health in a seamless manner. It recognizes there can be no health without mental health. - Elizabeth Lin, MD, MPH

in the news

January, 2011 - In a randomized controlled trial, testing an intervention called TEAMcare, nurses worked with patients and their doctors and health teams to manage care for depression and physical disease together, using evidence-based guidelines. more