Non-Compliance, Depression, and the Chronic Wound Patient

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Disclosures

• No relevant dualities of interest

• Behavioral colleagues in my work on diabetic foot wounds
  – Loretta Vileikyte
  – Richard Rubin
  – Jeffrey Gonzalez
Overview

• Focus on depression which has recently emerged as a potentially important risk factor for morbidity and mortality.
• Do depression and non-compliance act separately or jointly?
• What role do these play in different populations?
• What are the implications for treatment?
Prevalence of Depression in Diabetes

• US estimates of prevalence are 15-40% (2-8 times the general population)
• The wide range in estimates is a result of methodological differences in studies, including sample differences, measures and definitions of depression, etc.
• Consistent finding of higher rates in diabetes
Rates of High Depression Symptoms in Depression

Probabilities for risk categories:
If no risk factors, synthetic probability = 5%
  Actual probability for lowest risk case = 10%

If all risk factors, synthetic probability = 92%
  Actual probability for highest risk case = 81%

Peyrot & Rubin, Diabetes Care 20, 1997
Persistence of Depression

- 42% of participants in diabetes education were depressed at start of 5-day program.
- 13% were depressed when program started, and ended, and 6 months later.
  - If depressed only at pre or post program (not both), 36% were depressed at 6 months.
  - If depressed at both pre and post program, 73% were depressed at 6 months.

Peyrot & Rubin, Diabetes Care 22, 1999
Under-Diagnosis of Depression in Diabetes

• Depression is recognized in only about one-third of cases where it exists.
• Under-diagnosis reflects the assumption that depression is not independently important.
• Under-diagnosis is a result of lack of training, screening tools, and time for diagnosis and treatment.
Significance of Depression in Diabetes

• Less self-care (inactivity, smoking, etc.)
• Worse glucose control
• Obesity
• Major predictor of poor outcomes (functional limitations, morbidity, mortality, health care utilization)
• Effect of depression is exacerbated in diabetes
Chicken or Egg?

• Diabetes increases risk of depression and depression increases risk of diabetes.
• Diabetes complications increase risk of depression and depression increases risk of diabetes complications.
• Some have suggested depression is one more element of the metabolic syndrome.
Mechanisms

• Depression may affect outcomes by decreasing compliance and/or increasing risk behaviors.
• Depression may act through biological pathways, e.g., inflammation, blood pressure, lipids.
Symptoms of Depression

- Depressed mood or diminished interest in activities
- Significant weight loss or gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue
- Feeling worthless or guilty
- Difficulty concentrating or making decisions
- Recurrent thoughts of death or suicide
There are several screening questionnaires, including Patient Health Questionnaire (PHQ-9).

- Easily administered, completed, scored.
- Yields diagnostic analog and severity score.
- Treat or refer if diagnostic criteria met.
- Treat or refer if suicide risk.
Treatment for Depression

• Standard antidepressant medications (ADM) are effective.
• Behavioral treatments (esp. CBT) are effective.
• Recent research has show that ADM use is associated with elevated health risk (relative to no depression), but ADM use may be a marker for more severe depression.
Depression Treatment Outcomes

- Remission of depression is often temporary.
- Remission of depression not necessarily associated with improved compliance or glucose control, especially if no diabetes-specific behavioral intervention.
- Little research on longer term health outcomes, but evidence supports treatment.
- Depression treatment has a major impact on quality of life.
Intervention Population 1

• Patients at **low risk for first foot wound** (biological risk factors absent)
  – Need diabetes education to prevent onset of neuropathy, vascular disease
  – Need depression screening
  – Need ongoing diabetes self-management counseling (*see Peyrot & Rubin, Diabetes Care 30, 2007*)
Intervention Population 2

• Patients at **high risk for first foot wound** (biological risk factors present)
  – Depression and foot care are associated with increased risk of onset of first ulcer
  – Depression screening (and treatment) indicated, even though rates may not be elevated
  – Intensify foot care education and counseling with an emphasis on prevention
Intervention Population 3

• Early onset wound patients (first ulcers)
  – Depression and self-care are likely to be related to wound healing, and both should be addressed
  – No direct evidence that depression is associated with incidence of re-ulceration
  – No direct evidence that initial ulcers are associated with subsequent increase in depression
Intervention Population 4

• Chronic wound patients (recurrent or unremitting ulcers, more advanced complications)
  – Depression rates and mortality risk are elevated
  – Depression implicated in suicide and all-cause mortality
  – Intensive depression therapy indicated
  – Clinical interventions should be selected to minimize demand on patient motivation
Non-Compliance and Depression: Summary

- Potentially devastating combination
- High prevalence
- Often not recognized
- Easily detectable with simple screening tools or interview questions
- Requires specific anti-depressant therapy and self-management support
Non-Compliance and Depression: Implications

• Providers should enhance their skills for detecting emotional and behavioral problems in their patients.
• Providers should enhance their skills for providing emotional and behavioral support to their patients.
• Providers should develop a referral network including specialists in the diagnosis and treatment of depression in patients with diabetes.