Depression in Medical Illness

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Disclosures

- I have no relevant financial disclosures or conflicts of interests.

Learning Objectives

1. Understand how depression impacts other medical conditions
2. Learn strategies for diagnosing depression in patients with other co-morbid medical conditions
3. Discuss principles for treating depression in medically ill patients with particular emphasis on medication management
4. Learn about how better integration of behavioral health and primary care can improve outcomes

Why does depression matter in medical settings?

- Depression is common – MDD lifetime prevalence of 17%
  - 2-4% in the community, 5-10% in primary care, 6-14% medical inpatients
  - Depression increases in virtually all medical conditions in which it has been studied
  - Related to 10 percent of PCP visits
- Limited access to treatment

Why does depression matter in medical settings?

- MDD is associated with…
  - Medically unexplained symptoms
  - Higher morbidity, delayed recovery, negative prognosis from medical illness
- Higher health care utilization
  - Longer inpatient length of stay
  - Twofold increase in ED visits
  - Up to 50 percent higher medical costs
- Threefold increased risk of non-adherence

What causes depression in medically ill patients?

- Biological: physical effects of illness and treatment, medications, neurological involvement, genetic vulnerability, systemic inflammation, pain, proximity to death
- Psychosocial: social support, attachment security, self-esteem, spirituality and religiosity

How does depression present in the medically ill?

- Complicated by interactions with physiological and psychological effects of medical illness/treatment
- Major Depressive Disorder is NEVER an appropriate response to medical illness
  - Dreaded complication of medical illness
  - Source of excessive suffering
  - Warrants clinical attention

What does the DSM 5 say?

- Depressed mood and/or anhedonia (at least 1 required).
- At least 5 total symptoms including…
  - Neurovegetative symptoms (**sleep**, **appetite**, **energy**, psychomotor disturbance)
  - Impaired **concentration**, worthlessness/inappropriate guilt, suicidal ideation
- 2-week duration
- Not due to other medical problem or substance
- Not due to other mental health disorder

Are there alternative approaches?

- Exclusive approach - identifies most severely depressed patients, least sensitive
- Substitutive approach
  - Fearful or depressed appearance
  - Social withdrawal or decreased talkativeness
  - Brooding, self-pity, or pessimism
  - Mood that is not reactive (to good news)
- Inclusive approach – most sensitive and reliable

How can medical providers screen for depression?

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3

How can medical providers screen for depression?

- PHQ-9
  - Cutoff ≥ 10 has sensitivity and specificity of 0.88 for MDD.
  - Can be used to estimate severity and monitor response to treatment.
  - Cautions: Always check question 9!
- PHQ-2 – if score ≥ 3 then administer PHQ-9
- Remember to always talk to the patient.

Depression Treatment Options

- Psychotherapy
- Medications
  - All antidepressants are equally efficacious.
  - Adequate trial is 6 to 8 weeks at a therapeutic dose.
  - Treatment is an iterative process:
    - Increase dose, augment, switch, wait.
- Neuromodulation – ECT, rTMS

How to select antidepressants in medically ill patients?

- Drug-disease interactions
  - Psychiatric condition
  - Heart disease
  - Hepatic or renal impairment
  - CNS disease
- Drug-drug interactions

SSRIs

- Typically used first-line due to safety and tolerability
- Common side effects: GI distress, headache, nervousness, insomnia, sedation, sexual dysfunction
- Rare side effects: SIADH, bleeding, increased suicidal ideation (age ≤ 24)
- Low anticholinergic burden
- **Sertraline, citalopram, escitalopram** have lowest risk of cytochrome P450 interactions
- Sertraline has best cardiac safety data

SNRIs

- Helpful for chronic pain
- Worse discontinuation symptoms
- Venlafaxine, desvenlafaxine
  - Few cytochrome P450 interactions
  - Hypertension, nausea are common side effects
  - Effective for hot flashes
- Duloxetine
  - Chronic pain indication
  - Rare risk of transaminitis, hyperbilirubinemia

TCAs

- Effective analgesics in patients with chronic pain
- Use limited by side effects
  - Anticholinergic side effects – dryness, confusion
  - Cardiac conduction effects – prolongs QRS and QTc
  - Orthostatic hypotension
  - Lethal in overdose
- Nortriptyline and desipramine are best tolerated
- Lower doses needed for sleep and pain vs depression

Other antidepressants

- Bupropion – acts on NE and DA
  - Activating, improves concentration, not associated w/ sexual dysfunction
  - Helps with tobacco cessation
  - Seizure risk, typically not helpful for anxiety
- Mirtazapine – indirectly increases NE and 5HT
  - Rapidly relieves anorexia, insomnia
  - Sedation and weight gain are common side effects
  - Not associated with sexual dysfunction
  - Few cytochrome P450 interactions

Newer antidepressants

- Levomilnacipran – SNRI
- Vilazodone – SSRI + 5-HT1A partial agonist
- Vortioxetine – Antagonist, partial agonist, agonist at various 5-HT receptor subtypes
- Unclear if more effective or safer than older antidepressants

Side Effects – Best and Worst

- Weight gain
  - More common with TCAs, mirtazapine
  - Bupropion may decrease appetite
- Sedation
  - TCAs, mirtazapine, paroxetine
  - Other antidepressants, especially bupropion can be activating
- Anticholinergic effects – TCAs, paroxetine
- Chronic pain – noradrenergic antidepressants (TCAs, SNRIs) have most benefit

Side Effects – Best and Worst

- Arrhythmia risk
  - Greatest with TCAs
  - More QT-prolongation with citalopram, escitalopram compared to other SSRIs
  - Sertraline best studied in heart disease
  - Mirtazapine, bupropion, duloxetine also have low risk of QT-prolongation
- Orthostatic hypotension
  - Minimal risk with SSRIs
  - Highest risk with TCAs

Side Effects – Best and Worst

- Sexual dysfunction – least associated with mirtazapine, bupropion
- Bleeding risk
  - Consider using antidepressants without direct 5-HT activity (mirtazapine, bupropion)
  - Routine discontinuation before surgery is not recommended
- Hyponatremia
  - Consider using mirtazapine

Drug-Drug Interactions

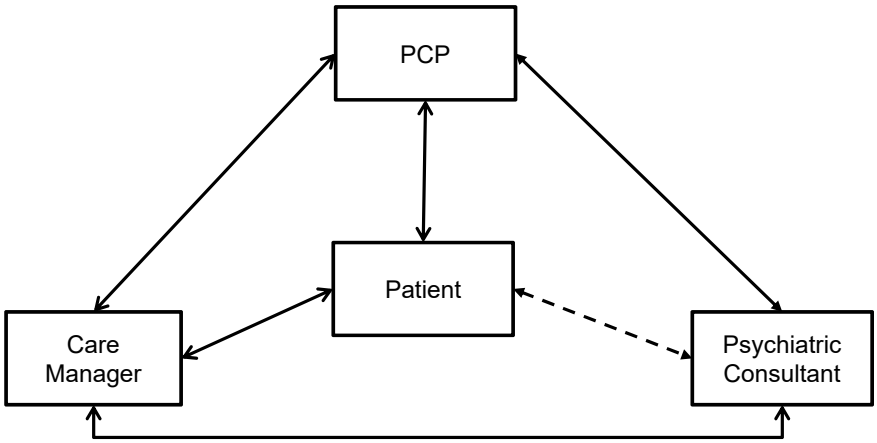
- CYP isoenzymes
  - Sertraline, citalopram, escitalopram tend to have least interactions
- QT-prolongation
  - Particularly TCAs, citalopram, escitalopram
  - Macrolides, antiarrhythmic agents
- Serotonin toxicity
  - Caution with tramadol, fentanyl, methadone, meperidine
  - Caution with linezolid

Can collaboration improve depression outcomes?

- Traditionally, behavioral health care has been isolated
- Integrated care unites behavioral health and medical care
- The Collaborative Care Model is the best studied model of integration
  - Patient-centered, team-based care that is…
    - Evidence-based
    - Measurement-based
    - Population-based

Traditional Care Team

Collaborative Care Team



Collaborative Care Evidence

- IMPACT Trial – RCT of 18 primary care clinics in 5 states
  - 1801 patients 60 or older w/ MDD, dysthymia, or both randomly assigned to IMPACT (CoCM) or usual care for 12 months
  - 45% of CoCM patients responded compared to 19% in usual care.
  - 25% of CoCM patients remitted compared to 8% in usual care.
- >80 RCTs and multiple meta-analyses have shown CoCM to be more effective than usual care.
- Improved patient satisfaction, improved provider satisfaction, health care savings.

Conclusions

- Major depressive disorder is a devastating and costly complication of medical illness.
- Recognizing depression can facilitate medication and non-medication treatment options.
- Providers prescribing antidepressants should consider how they interact with co-morbid medical illnesses and other medications.
- Team-based, collaborative approaches can improve depression outcomes in primary care or other medical settings.

Behavioral Health Management in Chronic Disease

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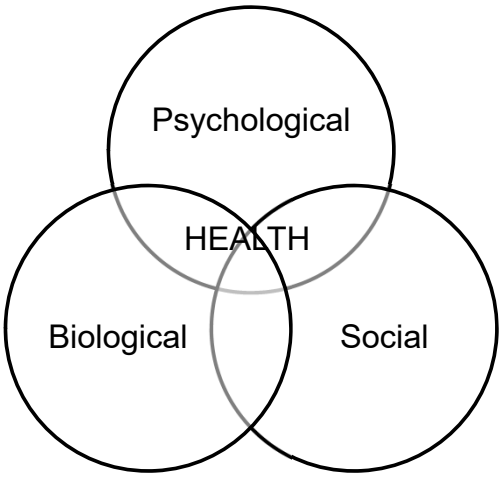
Agenda

- Why is behavioral health important in chronic disease?
- Common behavioral health concerns
- Therapeutic strategies & engaging patients
- Accessing behavioral health resources in the community

Why is it important?

- Biopsychosocial model of health
  - Influence of various factors, & their interactions, on health
  - We can improve our health by targeting various factors



Ong, n.d.

Why is it important?

- Bi-directional & cyclical relationship between behavioral & physical health
  - Poorer behavioral health can increase risk for developing physical health problems
  - Poorer physical health can increase risk for behavioral health concerns (e.g., depression)
- To optimize overall health, we must address all biopsychosocial components, not just the physical

Ong, n.d.

Why is it important?

- When a second condition is observed, there is sometimes unnecessary tension among the providers & patient
  - Example in bariatrics
- To effectively treat a patient, we must look at the whole person
  - Be mindful not to disregard other aspects of the patient, including co-morbidities & broader societal conditions
- We must commit to understanding & integrating the patient, their needs, & the multiple conditions which impact their lives to effectively identify tools & strategies for recovery

Mental Health America, n.d.

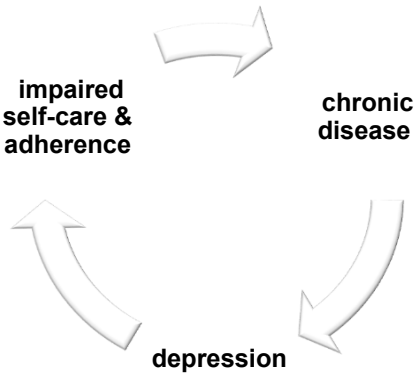
Common behavioral health concerns

- Depression & anxiety
  - Higher risk in chronic disease
  - Feeling sad, discouraged
  - Stress, concern re: new limitations, treatment outcome, uncertainty
  - Adapt to new reality
  - Important to assess duration of symptoms, impact on functioning (treatment planning)
  - Should be monitored
- Sleep & low energy
  - Can be bothersome, related to disease or depression, not able to engage in certain activities

NIMH, 2021

Depression & chronic disease

- Bi-directional & cyclical relationship
  - Associated with higher mortality risk & diminishes the efficacy of interventions



Herrera et al., 2021

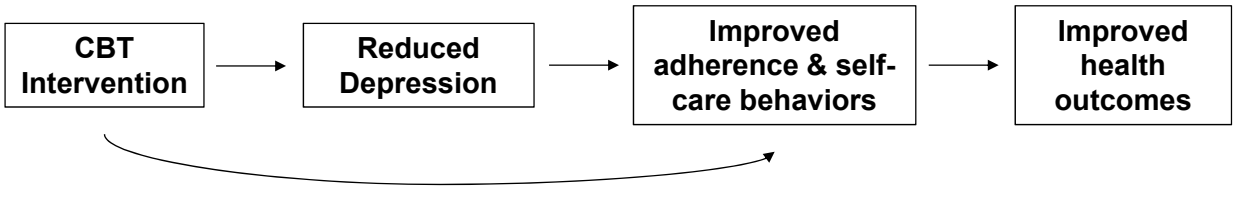
Mechanisms of influence

- **Chronic disease → Depression**
  - Burden of suffering, discomfort, stress, & impact on QoL
  - Impacts sense of self, self-esteem, & locus of control (person first language matters)
  - Grief & hopelessness about the future
- **Depression → Chronic disease**
  - Hindering self-care behaviors & adherence to medical treatment (too much effort, feels pointless, self-neglect)
  - Unhealthy coping (e.g., emotional eating, alcohol/substance use)
  - Hindered communication & trust between patient & medical team
  - Tend to demand too much of themselves, high sensitivity to criticism
  - Increased inflammation, abnormalities in stress hormones

Herrera et al., 2021

Therapeutic Strategies

- Cognitive Behavioral Therapy framework
  - Evidence based for psychological & medical conditions
  - **Premise**: our thoughts, feelings, & behaviors all impact each other
  - Short-term, skills based, focus on current problems, collaborative, assigning homework



Safren et al., 2008

Strategies to Engage Patients

- Communicate empathically, listen, acknowledge loss & grief process
- Promote empowerment & hope, support self-efficacy
- Include the patient's supports (family, community) as appropriate
- Assess readiness to change, meet patient where they're at
- Be sensitive to bias/stigma against individuals affected by obesity
- Explain treatment, encourage questions
- Increase accountability through regular (e.g., monthly) follow-up

Bellentani et al., 2007

Therapeutic Strategies – Behavioral

- Behavioral activation/Activity scheduling
  - Scheduling self-care activities that bring pleasure & a sense of accomplishment, focusing on what you can do
- Alternative behaviors to manage unpleasant emotions
- SMART goal setting
- Self-monitoring
  - Ideally completed in real-time, apps available, improves adherence, facilitates mindfulness over behaviors

Bellentani et al., 2007

Therapeutic Strategies – Behavioral

- Stimulus control
  - Setting up in your environment in a way to encourage desired behavior
- Building up social support system
  - Disclosing illness as you feel comfortable; emotional, tangible, informational support; practicing assertive communication
- Relaxation training
  - Progressive muscle relaxation, guided imagery, diaphragmatic breathing

Bellentani et al., 2007; Safren et al., 2008

Therapeutic Strategies – Cognitive

- Cognitive restructuring/Adaptive thinking
  - Thoughts influence mood & behaviors
  - Worry can be productive (problem solving) or unproductive (anxiety)
  - Important to challenge worries (What is the evidence? Catastrophizing? What would I tell a friend? All or nothing thinking?)
- Acceptance
  - How to willingly face challenges & be proactive with managing health, not dwelling on negative emotions but rather engaging in value-consistent actions, adapting & adjusting

Safren et al., 2008

Therapeutic Strategies

- Recent research demonstrating efficacy of **Mindfulness Based Cognitive Therapy** for treating depression in diabetes
  - Cultivating mindfulness: being aware of the present moment by means of paying attention on purpose & without judgment
  - Formal meditation, yoga exercises, informal daily mindfulness practices

Tovote et al., 2014

Accessing Behavioral Health Resources

- Finding a therapist (search for "health psychology" or "CBT")
  - **PsychologyToday**.com
  - locator.**apa**.org
  - **abpp**.org/Directory
- Talk with your PCP about medications or establish care with a psychiatrist
- Apps for guided meditation, online therapy

Bellentani et al., 2007

Summary

- Important to consider what we can do to improve QoL in patients with chronic disease
- Address concerns from a biopsychosocial perspective – the whole person
- Cognitive behavioral therapy & mindfulness strategies can be helpful with coping

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