



Patients' emotional well being and their cancer prognosis: The interplay and how to optimize patient outcomes by optimizing mental health

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Objectives

1. The reader will learn about how depression and cancer are found together, and potential explanations of why the relationship exists.
2. Review ways in which a diagnosis of depression can increase risk of mortality in patients with cancer.
3. Understand current psychosocial and pharmaceutical interventions currently being utilized by clinicians.
4. Identify the deficiencies in the literature up until now, and what is needed to improve the quality of the research in the future.

Introduction

- Patients with cancer are prescribed antidepressants at lower rates than the general population, and they may not be as effective.
- The approach to diagnosing and treating depression and concomitant cancer lacks standardization and high quality research.
- The pathophysiology of depression can help cancer proliferate, leading to higher rates of mortality.
- There are promising therapeutic approaches that range from physical exercise programs to mindfulness based therapies; however, more research is needed to determine their true efficacy.

How Are We Diagnosing Depression

- Occurrence of depression in patients with cancer ranges from 8-24%
 - It is theorized that self assessment tools overestimate the occurrence of depression while diagnostic instruments may be too strict to identify people in need of support
- Depression seems to be most prevalent during the acute phase of cancer
 - This has not been adequately researched in a longitudinal manner
- 15.5% of patients with cancer and depression are treated with antidepressants

Depression and Mortality

- People with depression have lower rates of treatment adherence
- Less likely to follow through with curative surgeries
- More likely to develop narcotic dependence and/or have longer hospital stays
- Chronic depression activates a stress cascade, releasing molecules that suppress the immune system

Treatment of Mind and Body

Physical

- Yoga programs reduce harmful inflammatory markers, reduce rates of depression and anxiety, and increase muscle strength and endurance
- Yoga was the most researched physical exercise program

Pharmacotherapy

- Without guidelines made specifically for patients with cancer, clinicians typically start with an SSRI and will monitor for response to medication

Psychotherapy

- Cognitive behavioral therapy has been shown to reduce pro-inflammatory proteins in the body and reduce symptoms of depression

Table 1: Side effects of Antidepressants

Antidepressant Class	Side effects
SSRIs	<ul style="list-style-type: none"> • Inhibits conversion of tamoxifen to active metabolite (CYP450) • Headache, GI disturbance, sexual dysfunction • Decreased platelet aggregation
SNRIs	<ul style="list-style-type: none"> • Hepatotoxicity • Urinary retention • Increased blood pressure at high doses
Bupropion	<ul style="list-style-type: none"> • Inhibits conversion of tamoxifen to active metabolite (CYP450) • Reduces seizure threshold
Mirtazapine (TeCA)	<ul style="list-style-type: none"> • Agranulocytosis • Increases lipid profile • Anticholinergic properties and sedation
TCAs	<ul style="list-style-type: none"> • Anticholinergic properties and sedation • Orthostatic hypotension and cardiac arrhythmias

How to improve the quality of research

Heterogeneity

A great deal of research in this field was conducted on women with breast cancer. Future research needs to focus on people of all backgrounds and in different stages of cancer.

Increase Sample sizes

Many studies could not draw confident conclusions due to small sample sizes.

Comparing modalities of treatment

At this time there are not significant studies comparing one modality of treatment to another. Although it is agreed that a combination of treatments (such as psychotherapy and pharmacotherapy) is ideal, we don't know if a certain intervention is more efficacious in a particular stage of cancer.

Putting it all together

There are very few studies that follow patients receiving physical, psychotherapeutic, and pharmacotherapeutic treatments simultaneously.

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