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Cognitive Behavioral Therapy vs Antidepressant Medications in the Treatment of Major Depressive Disorder

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PERMISSION

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Department Nursing

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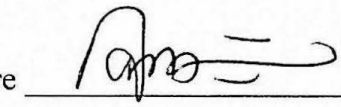
Signature 

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Abstract

Depression is a common and debilitating mental illness in the U.S. It affects a great number of people and yet often it goes undiagnosed and undertreated. Older adults are especially under-diagnosed because of different presentation in symptoms and increased commodities. Mark, a 55 year old male patient presented with fatigue at the clinic. Fatigue can be a symptom of many conditions. Labs were unremarkable and there were no physical examination findings indicating depression. Patient did not report complete depressive symptoms until PHQ-9 was employed. He was diagnosed with moderate depression, opted for cognitive behavioral therapy (CBT) over antidepressant medications (ADMs). He was referred to a psychologist for CBT treatment. Studies have shown that CBT is as efficacious as antidepressants medications in treating depression; however the effectiveness of CBT is dependent on the knowledge and experience of the therapists.

Introduction

Major depression is a common mental illness affecting up to14 million adults in the United States with life time prevalence rate of up to 16% in the general population (DeRubeis, Siegle, and Hollon, 2008). It is a significant health and economic burden to patients, their families, and society which accounts for an average of 43 billion dollars in medical care and 17 billion dollars in lost productivity annually (Chisholm, 2001). It is the fourth leading cause of disability in the United States (Center for Disease Control and Prevention [CDC], 2010). Characteristics of depression include depressed or sad mood, loss of interest in pleasurable activities, weight gain or loss, psychomotor agitation or retardation, fatigue, inappropriate guilt, difficulties concentrating, and suicidal thoughts (American Psychiatric Association, 2013). Diagnosis is based on the presence of five or more of the above symptoms present for a continuous period of at least two weeks. Treatments should be tailored towards individual needs and preferences with cognitive behavioral therapy (CBT), antidepressant medications (ADMs) or a combination of the two preferred.

Depression is often under-diagnosed and under-treated especially in older patients (Castillo, Begley, Ryan-Haddad, Sorrentino, & Twum-Fening, 2013). This is because of differences in risk factors, atypical presentation of symptoms and the higher number of comorbidities. Untreated depression has been attributed to developing or worsening of various chronic medical conditions. Diabetes and cardiovascular disease for instance have been linked to increased incidences of Major depressive disorder (MDD). In young and middle adulthood, depression has been linked to substance use and abuse including alcohol, cocaine, heroin and marijuana. Some prescription medications including but not limited to benzodiazepines,

antipsychotics, and corticosteroids are also thought to cause or exacerbate depression although there has been no sufficient studies showing to what extent.

Mr. Mark presented to the clinic with only fatigue which could be a symptom in many conditions including but not limited to anemia, cardiac dysfunction, hypothyroidism, vitamin D deficiency and vitamin B12 deficiency. On physical examination, there were no physical findings pointing towards depression. All laboratory values were unremarkable. The patient was not forthcoming with information regarding depression until PHQ-9 was employed. On further evaluation using PHQ-9, he was diagnosed with moderate depression. The patient opted for cognitive behavioral therapy over antidepressants medications as a treatment of choice. The purpose of this paper is to evaluate effectiveness of cognitive behavioral therapy versus antidepressant medications.

Case Report

Mr. Mark, a 55 year old Caucasian male presented to the clinic with complaints of increased tiredness and fatigue. Generally healthy patient with benign past medical history reported fatigue over 2 month period, progressively worsening over the past 2 weeks. Patient denied fever, chills, or sweats. He endorsed poor appetite with no change in bowel habits. As an office worker, patient reported no change in work routines but endorsed sleeping much more than usual. The only surgical history reported by the patient is colonoscopy in 2014. Patient had no known allergies and reported taking multivitamin and Metamucil for medications. He reported to be married, staying with his spouse and have two grown up children.

The patient's vital signs were as follows: temperature, 98.3°F; heart rate, 68 beats per minute; respiration rate, 20 beats per minute; and blood pressure of 143/74 mm Hg. The patient presented alert and oriented in no acute distress. He was cooperative with the physical

examination with normal mood and affect noted. On auscultation, his cardiac examination demonstrated normal heart tones without irregularity or murmurs. He had no lower extremities edema. The lung sounds were clear to auscultation, without rales, wheezing or rhonchi. No increased respiratory effort was noted with speaking. Skin color, temperature, and turgor were all within normal limits without rashes or lesions.

Differentials considered include cardiac dysfunction, anemia, vitamin D deficiency, vitamin B12 deficiency, hypothyroidism, and depression. Comprehensive laboratory studies obtained include complete blood cell count (CBC), comprehensive metabolic panel (BMP), vitamin D level, vitamin B12 level, and thyroid stimulating hormone (TSH). Monocytes were noted to be slightly elevated at 8.6% (reference range 2.0-8.0) while the rest of the CBC was noted to be within normal range. BMP revealed slightly elevated glucose at 107 mg/dL (reference range 70-99) and BUN of 23 mg/dL (reference range 9-20) whereas the rest of the values were within normal limits. Vitamin D level, vitamin B12 level, and TSH were all within the normal limits.

The patient was assessed for depression using PHQ-9 questionnaire. In the past 2 weeks, he endorsed little interest on pleasurable activities, feeling down, depressed or hopeless half of the time. He reported sleeping too much and having little energy nearly every day. In addition patient reported poor appetite and trouble concentrating on usual activities, such as reading the newspaper or watching television for several days. He indicated to be having very difficult time in getting work done and in taking care of things at home. On the PHQ-9 scale, patient scored 12. He was diagnosed with moderate depression.

The patient was offered treatment options of CBT and ADMs. He opted for CBT, and was referred to a psychologist for treatment. Future consideration was given to ADMs

specifically serotonin selective reuptake inhibiters (SSRIs) in case of no or insufficient improvement of depressive symptoms with CBT.

Literature Review

Clinical depression is one of the most devastating psychiatric disorders (Driessen & Hollon, 2010). Depression can be classified either as a syndrome or disorder (DeRubeis at al., 2008). Manifestations of depression as a syndrome include sadness, loss of interest, pessimism, passivity, negative beliefs, suicidal ideation, decreased motivation, changes in sleep, appetite, and sexual interest (American Psychiatric Association, 2013). As a disorder, depression is classified into unipolar and bipolar. The former includes only episodes of depression whereas the latter there are episodes of mania. Mania episodes are marked by irritability, sleeplessness, grandiosity, and uncontrollable impulses such as sexual promiscuity.

Antidepressant medications are a widely and commonly used treatment for MDD in the United States (DeRubeis et al., 2005). The American Psychiatric Association (2010) Practice Guidelines for Major Depressive Disorders in Adults recommends ADMs as the first choice for initial treatment of MDD. The goal for ADMs is to provide symptom relief and or remission. Symptom relief is defined as noticeable improvement whereas remission is the absence of symptoms (Frank et al., 1991). The efficacy of ADMs is well established in many randomized clinical trials. While ADMs provide symptom relief, cure may not be apparent due to a possibility of symptoms coming back when treatment has been stopped. Antidepressants fall into several classes including monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants (TCAs) and serotonin, noradrenaline or dopamine reuptake inhibitors [SSRIs, SNRIs, SDRI] (DeRubeis, et al., 2008). Their mechanism of action is to alter the regulatory processes of monoamine, serotonin, noradrenaline, or dopamine systems and reverse the patterns that result in

depressive episodes. Antidepressants affect neurotransimitter degradation (e.g. MAOIs) or reuptake mechanisms (e.g. TCAs, SSRIs) in the limbic system and bring changes to the disordered patterns in the brain.

Cognitive behavioral therapy was pioneered by Beck, Ruch, Shaw, & Emery (1979) and has shown promise in treating MDD. Since then, it has been commonly adopted as a treatment method for MDD. Cognitive Behavioral Therapy not only improves depressive symptoms but can also improve social functioning. Cognitive Behavioral Therapy is based on the principle that inaccurate beliefs and negative thinking form the basis of MDD and that therapy to correct this maladaptive thinking reduces the risk of depression (DeRubeis, et al., 2008). When treating depression with CBT, therapists aim at allowing patients identify the thoughts and images that precede the depressive episode (Beck et al., 1979). Patients are then encouraged to distance themselves from beliefs that come as a result of the thoughts and images. There is substantial evidence to support claims that CBT provides protection against relapse and recurrence of depressive symptoms.

DeRubeis et al. (2005) conducted a randomized complete design study on 240 patients to investigate whether ADMs were superior to CBT in treating moderate to severe depression. Patients who met the criterion for moderate to severe depression according to the Treatment of Depression Collaborative Research Program (TDCRP) were randomly assigned to 16 weeks of either CBT or ADM or 8 weeks of placebo pill. Paroxetine was used because it is the recommended pharmacotherapy drug for severe depression. Paroxetine is a selective serotonin-reuptake inhibitor (SSRI), a class of medications that are most widely prescribed. In addition Lithium and Desipramine were used in patients who showed no signs of improvements after 8 weeks. This was a more aggressive pharmacotherapy treatment. The study was conducted on

two sites: University of Pennsylvania where there were more experienced therapist and at Vanderbilt University with less experienced therapists. The less experienced therapists required additional training during the trial. It was noted during the study that the less experienced therapists were not performing at the same level of competence as the experienced ones. At the initial treatment of MDD, cognitive behavioral therapy was found to be as effective as antidepressant medications. However the degree of effectiveness was more depended on the high level of expertise or experience of the therapist. At the conclusion of the 16 week trial, ADM treatment was found to be superior to cognitive behavioral therapy at the site where there were less experienced therapists. Both treatments were superior to the placebo pill. Effectiveness of CBT is therefore dependent on the expertise and training of the therapists (Driessen & Hollon, 2010). Cognitive Behavioral Therapy can be as efficacious as ADM with more severely depressed patients when provided by more experienced cognitive therapists.

Depression is a recurrent disorder and ADM may prevent relapse greater than CBT (DeRubeis et al., 2005). Remission rates for relapse were 46% for ADM and 40% for CBT in DeRubeis et al. (2005) study. A relapse is when symptoms develop within 6 to 12 months after treatment whereas a recurrence is when patients experience symptoms after more than 12 months of receiving treatment. The suppression of symptoms by ADM is purely palliative and CBT is more than palliative.

Zu et al. (2014), conducted a comparison study for the effect of CBT, ADM, combination of CBT and ADM (COMB) and standard treatment (receiving psycho-educational intervention and medication as determined by the psychiatrists) for treating moderate-severe depression of Chinese patients. A total of 180 patients were randomly assigned to the treatments, 46.7% participants dropped out during the study. After a 6 month period with 96 participants, the

remission rates for CBT, ADM, COMB and standard treatment were 48%, 54.2%, 75% and 53.5%. At the conclusion of the study, there was enough evidence to support the effectiveness and feasibility of CBT as a psychosocial treatment for Chinese –patients suffering from moderate to severe depression. The greater remission rate in the combination treatments is well documented in literature (Cuijpers et al., 2009).

Huibers et al. (2014) conducted a controlled but non-randomized study involving patients suffering from MDD who received treatment of their choice in a naturalistic setting. The patients were allowed to choose, ADM, CBT, interpersonal psychotherapy (IPT) with or without antidepressants. The effectiveness of each treatment was depended on the physical functioning of the patients. Patients with higher physical functioning responded better to treatments regardless of type than those who had lower physical functioning.

Major depression often becomes prevalent in older persons (Serfaty, et al., 2009). Conventional pharmacotherapy may be less desirable in older persons because of ill health, side effects and life experiences may make psychological interventions more relevant. Many older persons go through various life changes which can result in social isolation. Cognitive behavioral therapy is an effective treatment for older people suffering from depression. Serfaty et al. (2009) found out that treatment of major depression in older adults, 65 years and older was mostly effective with CBT. Adherence to medications is poorer in this population and older people engage well in talking treatments and benefit from CBT. However the study did not give suggestions on the optimum frequency of CBT treatments or remission rates.

Reducing depression symptoms is not sufficient, but the goal of treatment would be to achieve remission and recovery such that the patients can function without use of treatments. The effects of combining CBT with ADMs versus ADM alone on remission rates in MDD was

studied (Hollon, et al., 2014). Cognitive behavioral therapy combined with ADMs increased the rates of recovery from MDD relative to ADMs alone (72.6% versus 62.5%). The effect was enhanced in patients who were suffering from severe, non-chronic depression. For patients who had less severe and chronic depression, little benefit of combining CBT with ADMs was observed. Since there is a higher cost related to combining treatments for depression, combination treatment may be reserved for those patients with more severe and non-chronic depression. It should be noted that fewer patients who were on the combination treatment dropped out of the trial than those who were on ADMs alone.

Learning Points

- Depression is often under-diagnosed and undertreated
- Cognitive Behavioral Therapy and ADMs are equally effective in treating MDD, but effectiveness of CBT is dependent on the knowledge and experience of the therapist.
- Older adults are more prone to depression because of loneliness and higher number of comorbidities.
- Older adults often respond better to CBT than ADMs.
- When CBT and ADMs are combined, remission is increased as compared to individual therapies but combination therapies are more expensive and therefore should be reserved for patients with severe and chronic depression.

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