Psychotherapeutic Treatment of Bipolar Disorder Utilizing Telepsychology

Danielle Hodges

A Clinical Research Project presented to the faculty of the Hawai‘i School of Professional Psychology at Chaminade University of Honolulu in partial fulfillment of the requirements for the degree of Doctor of Psychology in Clinical Psychology.

Honolulu, Hawai‘i
June 2020

Psychotherapeutic Treatment of Bipolar Disorder

Utilizing Telepsychology

This Clinical Research Project by Danielle Hodges, directed and approved by the candidate's Clinical Research Project Committee, was approved by the faculty of the Hawai‘i School of Professional Psychology at Chaminade University of Honolulu in partial fulfillment of the requirements of the degree of Doctor of Psychology in Clinical Psychology.

Digitally signed by Sean W. Scanlan, Ph.D.
Date: 2020.10.13 14:48:47 -10'00'

Sean W. Scanlan, Ph.D., Program Director
Hawai‘i School of Professional Psychology

Clinical Research Project Committee

Steven J. Choy, Ph.D.
Chair

Ricky Trammel
Digitally signed by Ricky Trammel
Date: 2020.08.14 10:21:08 -10'00'

Ricky Trammel, Ph.D.
Committee Member

Psychotherapeutic Treatment of Bipolar Disorder Utilizing Telepsychology

Danielle Hodges

Hawai‘i School of Professional Psychology at Chaminade University of Honolulu - 2020

It is believed that the Greeks, in the second century A.D, were the first to identify bipolar disorder. They understood it to be an illness with a biological cause. Throughout history, bipolar disorder has been caught in the mind-brain debate, as great thinkers have sought to identify the root cause of its unique presentation. At present, research has identified neurological and biochemical variations in bipolar disorder and the need for pharmaceutical treatment. Effective treatment begins with and relies on medication adherence, and yet poor adherence is one of the main challenges in bipolar disorder treatment. Effective medication adherence occurs as a result of appropriate psychotherapeutic interventions. The predicament lies in resolving how to keep individuals receiving necessary psychotherapeutic treatment, which then enables successful psychopharmacological outcomes, and thus leads to effective psychotherapy and long-term treatment success. Poor treatment response and the repercussions of inadequate bipolar disorder treatment can be life-threatening, leading to suicide, hospitalizations, and impaired quality of life for the individual. This Clinical Research Project focuses on the design of a psychotherapeutic model that utilizes technological resources, known as telepsychology, to improve treatment factors and enable successful psychotherapeutic interventions that allow for long-term recovery for individuals with bipolar disorder.

Dedication

This work is dedicated to the lovely and complex individuals whose lives are challenged by bipolar disorder.

For Thor, my muse, collaborator, and partner on this uncharted interpsychic journey; hands down the most instrumental person that made this academic endeavor possible, your hard work and diligence have been a support and an inspiration. I adore you the most.

For my children, thank you for sharing me with my academic and professional pursuits. You are my joy and meaning.

Acknowledgements

I want to thank the State of Hawaii Department of Health Adult Mental Health Division, for allowing me three incredibly rich years of practicum experience working with the severely mentally ill consumers entrusted to the care of the Hawaii State Hospital and Windward Treatment Services Section. It was a privilege to have worked as a member of countless interdisciplinary treatment teams and learned from so many clinicians.

To my direct Supervisors, Dr. Meghan McBrearty, Dr. Nikita Hay, and Dr. Joshua Ford, I appreciate the guidance and encouragement you provided that helped me discover who I am as a clinician.

I wish to extend a special thanks to Dr. Michael Omizo, who has been an amazing coach and mentor in my professional journey; and got me through the first half of this research project. And to my Clinical Research Project Chair, Dr. Steven Choy and Committee Member, Dr. Ricky Trammel, thank you for helping me see this work to completion.

Finally, I am sincerely grateful for all the faculty at the Hawaii School of Professional Psychology (HSPP); elements of this work began my first semester at HSPP. I am especially grateful for Dr. Robert Anderson and Dr. Joy Tanji. Since our first meeting, at my admission interview, they have encouraged and inspired my passion for this field and fostered the critical thinking necessary to persist in this clinical project.

Table of Contents

Page

List of Tables

List of Figures

CHAPTER I

INTRODUCTION

The literature reviewed for this Clinical Research Project includes a thorough introduction, explanation, and historic understanding of bipolar disorder. The factors affecting effective treatment of bipolar disorder, programs for the treatment of bipolar disorder, telemental health/telepsychology interventions, and use of technology to treat bipolar disorder will also be reviewed in order to provide a bedrock for the cohesive psychotherapeutic treatment model later presented in this project.

Rationale for the Study

Effective treatment of bipolar disorder requires the complimentary combination of both psychopharmacological and psychotherapeutic interventions. However, this necessary harmony of interventions does not easily occur. Research suggests that individuals with bipolar disorder struggle with appropriate medication adherence, and without this foundational aspect of bipolar treatment they lose the insight and stability to maintain psychotherapy treatment. To further complicate this matter, the key to ensuring medication adherence is psychotherapeutic interventions. This paradoxical situation can lead to deleterious outcomes. Poor treatment of bipolar disorder can be life-threatening; leading to suicide, hospitalizations, and impaired quality of life for the individual and their loved ones. A specifically designed treatment model, utilizing telepsychology, for individuals with bipolar disorder could amend the present treatment dilemma.

Purpose of the Study

At present, the course of treatment for individuals with bipolar disorder is ambiguous, complex, and disconcerting to even seasoned mental health professionals. Research indicates that the expectancy of recovery and success for individuals with bipolar disorder is a long arduous journey that not all individuals can or will attain. The goal of this project is to create a model that organizes and allies the discordant aspects of bipolar treatment and enables a more cohesive course of efficacious treatment. Through the use of technology, telepsychology can allow psychotherapeutic treatment to efficiently support proper psychopharmacological treatment, thus allowing for necessary psychotherapy to occur, and overall treatment of bipolar disorder to remain more consistent and effective, enabling long-term recovery. This model is designed from a biopsychosocial perspective, addressing all aspects of the bipolar disorder illness, and seeking holistic long-term illness recovery through all stages (diagnosis – remission).

Research Questions

This research study will seek to address several questions including; what is bipolar illness and how is it effectively treated?; what are the reasons why individuals diagnosed with bipolar disorder are not adhering to the medications they are prescribed?; What variables/factors contribute to medication adherence?; what psychotherapeutic interventions are effective in treating bipolar disorder?; How can telepsychology supplement traditional psychotherapeutic interventions for bipolar disorder and ameliorate attrition and/or treatment

noncompliance? And lastly, what elements are necessary to design a holistic long-term psychotherapeutic treatment model for bipolar disorder.

Significance of Study

The biopsychosocial nature of bipolar disorder creates complex and unique multidisciplinary treatment needs that cannot be wholly addressed by either the current structure of either the field of psychiatry or psychology alone. The contentious and discordant undercurrents taking place between mental health fields only complicates treatment for individuals with bipolar disorder. Both psychiatrists and clinical psychologists can diagnose bipolar disorder, however, in most states psychiatrists alone prescribe the necessary medication for bipolar treatment. What options are available for clinical psychologists treating bipolar clients? According to "bipolar disorder expert" Eric Youngstrom, PhD, the best psychotherapeutic treatments for bipolar disorder each address separate aspects of the individual's needs and would require a clinician trained in each modality or the client to see a variety of clinicians to have complete illness care. He states, that effective therapies " include cognitive behavioral therapy to pay attention to automatic positive thoughts as potential triggers for hypomania or mania; dialectical behavior therapy for improving emotion regulation; psychoeducational therapy to understand triggers and ways of managing the illness; family-focused therapy to improve communication and reduce intense emotional conflict; and interpersonal social rhythm therapy that emphasizes regular sleep and activity patterns." (APA, 2012). Clinical psychologists seeking to treat individuals with bipolar disorder would best benefit from one comprehensive treatment model that incorporates telepsychology modalities and integrates all necessary and effective

components of treatment, regardless of theoretical orientation, to help ensure the best outcome for their bipolar clients. This would address the issue of medication adherence, seek to ensure long-term treatment compliance, and minimize attrition. A single comprehensive model for the treatment of bipolar disorder utilizing telepsychology options also benefits the client, by simplifying an already complex journey of illness recovery.

CHAPTER II

REVIEW OF LITERATURE

Introduction to Bipolar Disorder

Bipolar disorder is an illness with a biological etiology and a psychological presentation. It requires medication and psychotherapy for effective treatment. Treatment adherence, specifically medication adherence is a major problem that treatment professionals face. There are effective psychosocial/psychotherapy treatment strategies to aid patient adherence to medication and overall treatment.

Bipolar Disorder is a severe and persistent mental illness (SPMI). In its simplest form characterized by excessive highs and lows in mood and energy. Where most people experience periods of low mood or even depression, an individual with bipolar disorder has no floor to the depth that their low mood can fall into. Likewise, where most people experience elevated moods or brief periods of euphoria, and or anger, persons with bipolar disorder have no ceiling and can experience moods that become severe and irrational. Many patients with bipolar disorder also experience psychosis. Due to the severity of this illness psychotropic medications are routinely the first means of treatment.

Each year Bipolar disorder affects approximately 5.7 million adult Americans, this amounts to nearly 2.6% of individuals 18 years or older, in the United States. The mean onset age for bipolar disorder is 25 years. However, symptoms can begin in early childhood or present later in life, occurring at times in one’s 40's or 50's. The illness affects all gender, races, ethnic groups, and social classes equally. It is noted that for those diagnosed with bipolar disorder over two-thirds will have at least one close relative with either bipolar

disorder or unipolar major depression. This data clearly points to the heritable nature of the disease (National Institute of Mental Health, 2018)

Bipolar disorder has its roots in a person's biochemistry and the rationale for medication as the first line of treatment is evidenced by current research. The problem becomes that it is estimated that only 35-59% of bipolar disorder patients are considered compliant with their prescribed bipolar disorder pharmaceutical treatments (Javadpour, Hedayati, Dehbozorgi, & Azizi, 2013; MacDonald, Chapman, Syrett, Bowskill, & Horne, 2016; Arvilommi, et al., 2014; Belzeaux, et al., 2015). Effective treatment relies on medication adherence, and yet poor adherence is one of the main challenges in bipolar disorder treatment (Belzeaux et al., 2015; Goodwin & Jamison, 2007). Poor medication adherence equates to poor treatment response, and the repercussions of inadequate bipolar disorder treatment can be life-threatening leading to suicide, hospitalizations, loss of productivity, and susceptibility to a range of professional and interpersonal indispositions (Javadpour, Hedayati, Dehbozorgi, & Azizi, 2013; Arvilommi, et al., 2014; MacDonald, Chapman, Syrett, Bowskill, & Horne, 2016).

History of Bipolar Disorder

Medication treatment for bipolar disorder is relatively new, the illness itself can be traced as a physiological condition as far back as the second century A.D. The Greeks believed it was caused by an imbalance in two of the four vital bodily fluids or humors. They believed depression or melancholia, was due to an excess of black bile, and mania caused by an excess of yellow bile. The exploration of the physical causes of mental illness ceased during medieval times when religious explanations were given for psychiatric

conditions. The Renaissance and the Enlightenment allowed physicians rather than priests to once again explore and classify diseases. In the late 1700's the English physician Robert James recognized that melancholia and mania were not separate but connected syndromes in many patients. In 1894 two French alienists, (the term used to refer to physicians specializing in mental illness at that time) Jules Baillarger and Jean-Pierre Falret, both identified in published writings on an illness that was observed to have periods of normal mood occurring alternating with periods of melancholia/depression and times of mania. In 1899, the German psychiatrist Emil Kraepelin went on to solidify our modern concept of bipolar disorder in his writings, classifying it as a periodic mood disorder, separate from the deteriorating illness of schizophrenia. Dr. Kraepelin offered a thorough explanation for the description of bipolar disorder; however, he offered little in terms of a solution or remedy. In 1906 major discoveries identifying the biological causes of general paresis as a Syphilitic infection, and the chemical and anatomical abnormalities of what we know today as Alzheimer's disease, fueled hope that the biochemical source of other mental illnesses like bipolar disorder could also be discovered. When the efforts to identify the physical cause of bipolar disorder and schizophrenia failed, physicians such as Sigmund Freud and Adolf Meyer, labeled them functional illnesses; ones rooted in the mind, rather than the brain. They sought to discover the source of dysfunction in patient relational and experiential histories. This approach offered little success in treating bipolar disorder, or what was then called manic-depressive illness. In 1948, an Australian physician named John F.J. Cade, while seeking a biological explanation for manic-depressive illness, discovered that lithium

had positive effects on managing manic symptoms, that the doors were opened once again to identifying the biological nature of what we now call bipolar disorder (Mondimore, 2006).

Severe and Persistent Mental/Medical Illness

The hunt for the exact source of bipolar disorder has uncovered some clarity and understanding of the bipolar brain, however, science has still not found the diagnostic "smoking gun" that will move bipolar disorder into the kind of historic place that general paresis insanity found so long ago.

Researchers have identified specific brain regions significant to bipolar disorder symptoms. To understand a relatively simple function, such as vision, requires some advanced scientific explicating. Bipolar disorder is far from simple, it exemplifies a myriad of complex behaviors that can be disrupted at various phases of the illness such as, depressive, manic, or euthymic; or at either the early or late stages of progression. The multifarious nature of bipolar disorder results in brain region possibilities occurring in more than one single location. Brain lesions resulting from brain tumors, stroke, or head injury were often observed to produce manic-like behavior in patients. Recognizing this correlation researchers have explored the idea that bipolar disorder could be associated to variations is in brain structure (Berns & Nemeroff, 2003). Generally, brain lesions are more likely to lead to depressive symptoms, however, lesions that lead to manic symptoms are commonly found in the frontal and temporal lobes, or subcortically in the caudate and thalamus (Cummings & Mendez, 1984; Starkstein, Fedoroff, Berthier, & Robinson, 1991). Lesions of the left frontal lobe are more likely to result in depression, whereas right frontotemporal lesions are more likely to create symptoms of mania (Berns & Nemeroff, 2003). Many exceptions to these

generalizations of laterality have been observed and therefore cannot be utilized for diagnostic means. Brain imaging has allowed researchers to explore the differences in the bipolar brain.

Computed Tomography (CT)

Early CT scans helped researchers identify that patients with bipolar disorder have larger ventricles than normal controls (Schlegel & Krtezschmar, 1987; Dewan, et al., 1988; Swayze, Andreasen, Alliger, Ehrhardt, & Yuh, 1990). Ventricular enlargement can be the result of cell loss, or alterations in neural circuit development. Volumetric imaging studies have revealed significant findings in bipolar disorder patients. The basal ganglia and thalamus are larger in bipolar patients, whereas both bipolar and unipolar depressed patients have smaller prefrontal lobe volumes. While recognizing the difference in volume measurement is useful to help direct further research, it leaves open many possibilities as to why this is observed (Berns & Nemeroff, 2003).

Magnetic Resonance Imaging (MRI) Hippocampus volume

More recent MRI studies have found decreased hippocampus volumes in patients with bipolar disorder. Alongside a smaller hippocampus, researchers also found that memory performance was impaired in patients with bipolar disorder (Cao, Bauer et al., 2016). Additionally, a similar study found a difference in hippocampal volume in bipolar disorder patients categorized by; Early-Stage, Intermediate-Stage, and Late-Stage bipolar disorder. Early- stage patients were those that had 3 or less manic episodes. Late-stage patients were those that had 10 or more manic episodes and 1 or more hospitalizations. A significant difference was discovered in hippocampal volumes of late-stage bipolar disorder patients.

They had smaller hippocampus than any other stage, as well as decreased verbal memory function. Interestingly, Early and Intermediate stage bipolar disorder patients had no significant hippocampus volume difference from healthy controls. However, Intermediate-stage patients did score lower on verbal memory, while Early-stage patients showed no difference from healthy controls (Cao, Passos, et al., 2016). These results suggest that bipolar disorder has progressive deteriorating biological effects. This unique means of categorizing bipolar disorder patients based on the progressive nature of the illness, marked by the number of manic episodes, could be the reason an earlier 2014 study; by Avery, Williams, Woolard, and Heckers, found no difference in hippocampal volume or relational memory impairment. Perhaps the participants in the latter study were made up of patients the 2016 study by Cao and others, would have classified as Early-stage bipolar disorder patients.

Positron Emission Tomography (PET)

PET scan findings in in the frontal lobes of bipolar disorder patients, during depression, show a stable decrease in the metabolic rate (Buchsbaum, Someya, Wu, Tang, & Bunney, 1997). Overall, the metabolic patterns in PET scans of bipolar disorder patients is not varied enough from other neurological complications to use as a diagnostic test for bipolar disorder. However, like MRI, PET scans identify that bipolar disorder does display real physical changes in brain function compared to healthy controls (Mondimore, 2006).

Functional Magnetic Resonance Imaging (fMRI)

fMRI studies looking at changes in metabolism and cerebral blood flow found that during periods of depression patients with bipolar disorder had considerably lower cortical metabolism than either controls or patients with only unipolar depression. However, these

changes were found to be state dependent; meaning that when the depressive phase of illness ended, so did the observed abnormalities (Baxter et al., 1985; Buchsbaum et al., 1986). Overall, functional neuroimaging in bipolar disorder patients has helped to identify networks of activity, rather than identifying specific regional abnormalities. This lends itself to the idea that if a cognitive process requires various brain regions to coordinate and function, then an alteration in one region may cause dramatic effects on the whole circuit (Berns & Nemeroff, 2003).

One Brain Approach

The idea of looking at the brain as one system is an approach being pursued by current researchers and has been dubbed the "one brain" approach. This approach has a global following. *Brain Canada* is an organization focused on a broad range of brain research. These researchers explain that the studies looking into the brain as “one system” can help shed light on and provide greater clarity on a variety of conditions. In 2013, the Human Brain Project was established in Europe, it involves 23 organizations in 13 countries the aim of this project is to simulate the complete brain using a supercomputer in the next ten years. The U.S. government also supported the launch of a 2013 initiative to map every single neuron, in a project being called the Human Connectome. The key concept is connectivity, Amit Anand M.D., a specialist in brain connectivity and mood disorders, explains that how cortical and limbic areas of the brain interact, may be the root of bipolar symptoms, rather than simply a decrease or increase in activation of one brain area. (Forbes, 2015).

Biochemicals of Bipolar Disorder

While the future of bipolar research seeks to understand the brain as a whole interconnected system, there is some present consensus on clear identifying characteristics in bipolar disorder neurochemical behavior. The early discovery in 1957 by Swiss psychiatrist Roland Kuhn, that Imipramine Hydrochloride had therapeutic effects on depressed patients, but led to manic symptoms in other patients, led to the recognition of a link between a biochemical relationship and bipolar disorder symptoms (Mondimore, 2006). A similar observation was made when patients were given the drug reserpine for high blood pressure and became severely depressed. It was recognized that reserpine depletes monoamine neurotransmitters, including dopamine, serotonin, and norepinephrine. The idea that monoamines are reduced in depression was confirmed with postmortem studies of suicide victims (Kolb & Whishaw, 2015). Neuroscientists have found that nearly all medications that effectively treat depression create a block of neurotransmitter reuptake in brain cells. The amine hypothesis of mood disorders is a theory that suggests depression is caused by abnormally low levels of neurotransmitters and that mania is caused by too high a level (Mondimore, 2006).

Norepinephrine

Originally, norepinephrine was the neurotransmitter that received the most attention. Norepinephrine has been found consistently altered in the cerebrospinal fluid of patients with bipolar disorder, as well as, metabolized to other compounds that appear in plasma, urine, and cerebrospinal fluid. Elevations in norepinephrine have been found to precede the switch into mania (Berns & Nemeroff, 2003). It was believed that low levels of

norepinephrine resulted in depression, while mania was the result of high levels. This proposal was called the catecholamine hypothesis (Schildkraut, 1965). While the evidence does point to a norepinephrine deficiency in depression, and an excess during mania, this may be indicative of complex global neural activity, rather than a causative factor (Berns & Nemeroff, 2003). Trying to pin the biochemical source of bipolar disorder on norepinephrine was recognized as being too simplistic (Mondimore, 2006).

Serotonin

As more antidepressant medications were discovered, researchers found that the more effective ones had little effect on norepinephrine; rather, popular medications such as Fluoxetine (Prozac) inhibit the reuptake of serotonin (Mondimore, 2006.) Fluoxetine is a selective serotonin reuptake inhibitor (SSRI), it increases serotonin in the cortex. Fluoxetine may also act in ways that are independent of serotonin, but important to the hippocampus, and thus opening up a potentially new understanding of a deeper rooted biological component of bipolar disorder. The death of hippocampal granule cells occurs when glucocorticoids (stress-related hormones) are elevated and sustained. The death of these cells could be due in part to a lowered Brain-derived neurotrophic factor (BDNF) during stress. BDNF acts to enhance the growth and survival of synapses and neurons. Cao, Bauer, et al. (2016) found evidence to specifically identify a BDNF allele val66met, linked to reduced hippocampus volume and memory performance. Fluoxetine stimulates BDNF production and increases the number of granule cells in the hippocampus through neurogenesis (Kolb and Whishaw, 2015). Animal studies have also found that two additionally used bipolar

treatments, lithium, and electroconvulsive therapy, also increase the growth of neurons in the hippocampus (Mondimore, 2003).

Glutamate

BDNF, as well as CREB (cAMP response element binding protein), are smaller molecules within the neuron that have been recognized as playing a role in the biochemical aspects of bipolar disorder, specifically the role they play in neuroplasticity, or the ability for a neuron to react and reshape itself in response to stress. Glutamate is another neurotransmitter that has been found to have an important role in neuroplasticity. Antidepressants don't seem to have an effect on glutamate, however, it is affected by lamotrigine and other mood stabilizers (Mondimore, 2003).

Pharmaceutical Treatment

From the invent and discovery of lithium by John F.J. Cade, the current first line of treatment in bipolar disorder is pharmaceutical; including lithium, anticonvulsants, antidepressants, anxiolytics, and antipsychotics. These medications have been found to bring about tangible symptom relief in bipolar disorder patients, but they are also becoming scientifically recognized for the effects they have on a neurobiological level. Research has also shown that lithium, valproate (Frey et al., 2006, Fukumoto et al., 2001), the antipsychotic quetiapine (Park et al., 2006), and clozapine and olanzapine (Bai et al., 2003) have been found to increase BDNF in animal studies, suggesting the possibility of preventing early cell death and diminishing deterioration of cognitive ability often observed in bipolar disorder illness. Lithium and valproic acid (Cui et al., 2007), as well as atypical antipsychotics (Berk, et al., 2007), were found to reduce oxidative stress. As mentioned

earlier Fluoxetine stimulates both BDNF production and neurogenesis in the hippocampus (Kolb and Whishaw, 2015); lithium, antidepressants, and electroconvulsive therapy have also been found to increase the growth of neurons in the hippocampus (Mondimore, 2006). Not only do pharmaceutical treatments help to bring about external symptom relief, but they offer a deeper neurobiological intervention that could slow the progression of the bipolar disorder illness and aid in a person's ability to have insight and overall quality of life.

Bipolar disorder is a complex illness that even with complete treatment adherence an individual is likely to experience severe symptom episodes, called relapses; making the need for individuals to collaborate with and follow the medication plan provided by their physician that much more crucial (Crowe, Wilson & Inder, 2011).

Much of the current literature identifies the failure to follow the prescribed medication treatment by a patient as "non-adherence" the term non-compliance is often considered paternalistic and not recommended. However, psychologist Dr. David Miklowitz in his book the Bipolar Disorder Survival Guide prefers the term "concordance" to either adherence or compliance. He agrees with Sachs' (2000) definition of concordance as, "a congruence between the plan made with the physician and the plan carried out by the patient." He prefers to use the word concordance because it highlights the importance of the alliance between the physician and the person with bipolar disorder (Miklowitz, 2002). Due to the more routine use of the term adherence in the present research literature, for this paper, the word adherence will be used.

Non-Medication Approach

Mark Mondimore M.D. (2006), states in his book *Bipolar Disorder a Guide for Patients and Families*, that to would be unethical, amounting to "malpractice" to recommend counseling or therapy as the only treatment for bipolar disorder, because medication treatment is essential to achieving ultimate bipolar health. However, Cappleman, Smith, and Lobban (2015), suggest that most professionals working with patients that have bipolar disorder focus on medication intervention more than any other type of treatment. They conducted a study into those individuals that have selected to not use medication to manage their bipolar illness. In their article, Managing Bipolar Moods Without Medication: A Qualitative Study, they found that individuals with bipolar disorder that have chosen not to take medication came to that decision through somewhat of a "cost-benefit analysis" (p.244). The study's participants cited medication side-effects as a major concern. Specifically, weight gain, tremors, loss of libido, and lithium toxicity.

This study found that patients focused on channeling their moods to a desired effect, when they experienced their mood becoming either higher or lower than desired, they acted to bring about a more desirable cognitive, emotional, or physiological state. Patients with bipolar disorder are more likely to find their depressed moods problematic and not recognize their high moods as a concern. However, due to the nature of the illness and the high probability of experienced psychosis, to suggest that someone with a Bipolar I diagnosis has the capacity to simply manage their moods through sheer will is highly unlikely. This study has numerous limitations, first, it utilizes an exceedingly small sample of only 10 participants. Secondly, it based its findings on interviews that lasted at most 105 minutes

long. The noteworthy findings from the study are that it is crucial to consider the patient's beliefs about moods, self, and relationships with others and how they consider medication to have an impact on these areas. The risk outweighs the benefits, in the long run, to simply not using medication but personalizing and helping the patient work through all aspects of treatment are critical for long-term success. The foundation of medication treatment for bipolar disorder is to provide the individual insight and allow them to live a truly meaningful life. Studies have shown that insight, specifically Theory of Mind (ToM), the type of insight that allows for a full understanding of oneself in interpersonal relation to others, is essential to quality of life, and is impaired in individuals with bipolar disorder. In a meta-analysis that included thirty-four studies, comparing one-thousand two-hundred and fourteen, remitted, subsyndromal, and acute (manic/depressed), patients with bipolar disorder; Bora, Bartholomeusz, and Pantelis (2015), concluded that ToM abilities were significantly impaired in those with bipolar disorder, compared to controls. Additionally, research suggests that the implications for not getting proper bipolar disorder treatment span beyond the impairment of insight and ToM alone. Not effectively treating bipolar disorder often leads to more severe mood symptoms, intense mood episodes, and rapid cycling of moods; this subsequently makes achieving effective treatment more challenging, due to potential neurological changes ("kindling" effects) that may impair one's longterm prognosis (Post, 1992; Post et al., 1996). One possible theory of bipolar disorder that involves the neurological mechanisms of patients with the condition suggests that while stress may be the initial trigger to illness onset, once instigated the brain no longer needs external variables to

perpetuate subsequent episodes of severe moods, this theory is called kindling (Bender & Alloy, 2011).

Neuroprogression/ Kindling

Stress is a primary contributor to what is widely accepted as the progressive nature of bipolar disorder. Mondimore (2006) discusses how early mood episodes often occur due to psychological stressors, but after several episodes, they begin to arise spontaneously in what is called the kindling phenomenon in bipolar disorder. As Cao, Passos, et al. (2016), point out bipolar illness does differ, getting progressively worse with each new episode. Researchers are gaining a clearer understanding of the process of neuroprogression in bipolar disorder that includes inflammatory cytokines, neurotrophins, mitochondrial dysfunction, oxidative stress, and epigenetic effects (Berk et al., 2011). This understanding may help to establish clear biomarkers for future diagnostic and treatment processes. When bipolar patients were given MRI scans over a four-year period, patients showed a decrease in gray matter in the fusiform gyrus, hippocampus, and cerebellum compared to healthy controls. Specifically, researchers noticed a significant relationship between the number of symptomatic episodes a patient had with the amount of gray matter and cognitive loss found (Moorhead, et al., 2007).

The understanding that neuroplasticity may be a necessary part of maintaining a stable mood state as we respond to stress in our environment, and thus a key factor in the physiology of bipolar disorder; has led researchers to hone in on stress and its role in bipolar disorder. Some consider psychosocial stress to be a catalyst to initiating the first major presentation of bipolar symptoms; however, the following episodes continue to occur

spontaneously in predisposed individuals (Kolb and Whishaw, 2016). The role of the hypothalamic-pituitary-adrenal circuit or HPA axis has also been recognized as having a significant role in bipolar illness. The resulting cortisol production from the HPA axis due to chronic stress has been found in elevated levels in both the cerebrospinal fluid and urine of bipolar patients experiencing mixed manic symptoms (Swann et al., 1992). Chronic stress exposure is linked to a higher number of episodes, greater symptom severity, and persistence (Kim et al., 2007). Patients with bipolar disorder experience long periods of cortisol production (Daban et al., 2005). Mansur, Cha, Asevedo, McIntyre, and Brietzke (2013), point out that manic episodes result in the release of inflammatory cytokines, and the deprivation of neurotrophins that offer protection to cells. Leboyer et al. (2012), presented the idea that bipolar disorder could be viewed as a multi-system inflammatory disease, going beyond the bipolar mind as simply a brain disorder, but a full body disorder; associated with a variety of comorbid medical illnesses linked to stress. They point out that cardiovascular death is the leading cause of mortality in bipolar disorder, above suicide or accidents.

Recognizing that bipolar disorder is an illness that progressively gets worse, essentially wreaking havoc from a psychosocial to a neurobiological level of a patient's being, is a strong argument for early diagnosis and treatment; to best preserve and ensure patient stability, and ultimate holistic health. Noting that researchers have found little significant difference between early-stage bipolar patients (those having had very few symptomatic episodes) and healthy controls, specifically in cognitive tests, and hippocampal changes (Cao, Passos, et al., 2016) supports the idea that early intervention is vital, particularly as this similarity does not remain as the disease progresses.

Reasons for Medication Non-Adherence

Non-medication adherence is defined in this paper as failure to take medication as prescribed. Several research studies consider non-adherence as an equivalent to poor adherence, and poor adherence as missing 30% or more of medication (Sajatovic et al., 2011), however, the relationship to medication adherence and effective treatment is the exploration of this paper. The primary factors affecting medication non-adherence in bipolar disorder include patient characteristics, illness presentation, treatment factors, and environmental issues (Arvilommi et al., 2013; Leclerc et al., 2013; Crowe, et al., 2011).

Patient characteristics

Patient characteristics include basic demographics such as; gender, age, education level, socioeconomic status, marital status as well as patient perceptions, substance use, and other comorbid conditions have been recognized as risk factors to medication non-adherence. The gender differences affecting adherence found women to be slightly more adherent to medication than men (Gonzalez-Pinto et al., 2006, 2010). Individuals below the age of 30 years were found to have a greater risk of not adhering to medication (Leclerc et al. 2013). Several research studies identified a lower level of education as a risk factor for medication non-adherence also (Johnson et al.,2007; Gonzalez-Pinto et al.,2010). Additionally, being single was found to also increase a person's risk of non-adherence (Gonzalez-Pinto et al., 2006, 2010).

Patient perceptions

While certain studies have been able to identify some demographic and clinical features that indicate individuals at high risk of non-adherence this information is far too

broad and less helpful to treatment professionals working with individuals with bipolar disorder. Clatworthy et al., (2009) recognize that a person's beliefs about treatment and how they balance their perceived need for treatment against concerns they have regarding the prescribed plan are a better indication for treatment professionals to help identify those patients most likely to become non-adherent. Their study found that 30% of participants with low-adherence had greater doubts about their need for treatment as well as concerns about potential negative side-effects of medication. Numerous studies have identified negative attitude toward medication as a relevant concern in understanding why individuals with bipolar disorder do not adhere to medication treatment (Sajatovic et al., 2009; Arvilommi et al., 2014; Zeber et al., 2011; Crowe et al., 2011). A study by Broadbent et al., (2006) recognized five dimensions of patient perception of bipolar illness: the label the person uses to describe the illness; the expected outcomes of the disease; personal beliefs about the cause of the disease; how long the person believes the illness will last; and the extent to which the patient believes they can recover from or control the illness. Perception is clearly shaped by the unique circumstances relevant to each individual and thus requires the treatment professional be sensitive to how and why these perceptions exist and how to best counter them to encourage better adherence.

The initial diagnosis of bipolar disorder can be a bittersweet experience; denial is a common reaction (Miklowitz, 2002). The individual and their loved ones have likely endured numerous challenges that may not have made sense, and the diagnosis may offer an explanation for many painful or confusing prior events. However, an accurate bipolar disorder diagnosis is for life, and most will begin a long journey to establishing how to best

live with a severe and persistent mental illness. Accepting that the diagnosis is accurate is not always easy or received by patients. The very nature of bipolar disorder presentation, with its fluctuating mood states, could play a large part in an individual's perception of medication treatment. An often-encountered issue is an ambivalent attitude by the person with bipolar disorder toward the diagnosis in general, and subsequently the treatment as well. It can be difficult for the person to accept the disorder as chronic and severe because periods of illness are often counterpoised with periods of wellness when the person experiences not symptoms (Crowe, et al., 2011). The person may attribute symptom etiology to circumstances that they see as transient or isolated, such as a specifically stressfully life event. The person may assume that the bipolar symptoms were the result of the specific situation rather than a more complex biological inner working triggered by the external event. Individuals naively assume that by changing the external circumstance they can thus avoid future symptoms. When these ideas coincide with a period of symptom remission this rationale can be deceptive.

Stigma

Bipolar disorder and other severe and persistent mental illnesses are not the only conditions that those with the ailments struggle to faithfully adhere to the prescribed pharmaceutical regimen (Miklowitz, 2002). However, attitudes specifically toward antipsychotic medications, or mental health medications are significantly more negative and contribute to medication non-adherence (Berk et al., 2010). Having a severe and persistent mental illness comes with an added layer of scrutiny by others and the public at large. Stigma can be defined as either *external*: stemming from society or others that lack sufficient

understanding and knowledge about a condition that contribute to biases against individuals with the condition. Stigma can also be *internal*, called self-stigma, occurring when stigmatized individuals take on society's viewpoint and incorporate it into their sense of self (Howland et al., 2016). We are living in a time of the greatest understanding and knowledge of mental illnesses in history, and yet most people still lack a clear understanding of severe and persistent mental illnesses. Mainstream media creates misperceptions of severe mental illness, suggesting that there exists a level of danger in individuals with these conditions by highlighting crimes committed by people with psychiatric diagnoses. It is not just fear of individuals with mental illness that contributes to ignorance regarding bipolar disorder, but also a general misunderstanding in what the condition is, and what it means for someone to live with bipolar disorder.

Studies have found that society harshly judges and discriminates individuals suffering with psychotic disorders more than those with only anxiety or depression (Pescosolido, Monahan, Link,Stueve, & Kikuzawa, 1999). The most pervasive understanding is that individuals have highs and low, either depressed or manic, which is usually indicated as an extreme euphoric mood. The reality is so much more complex, and while some degree of name recognition exists today with bipolar disorder being a relatively well-known illness, with the recognition has come the misunderstanding. Those that must live with this illness have to wrestle with not only the illness itself but the perception that others have of them as well. Several research studies have specifically looked into the relationship between stigma and medication adherence in bipolar disorder. Both Howland et al. (2016) and Kamaradova

et al. (2016) identified a noteworthy relationship between self-stigma and adherence to treatment.

Substance use

Substance use is a significant issue that affects individuals with bipolar disorder. When compared to other Axis I psychiatric disorders large epidemiologic surveys of the general US population identified those suffering from bipolar disorder to have the most incidences of alcohol and substance use disorders (Regier, et al., 1990; Kessler, et al., 1997). Substance and alcohol use complicate the symptom presentation and prognosis of bipolar disorder (Salloum & Thase, 2000; Salloum et al., 1999). The lure to self-medicate the complicated experience of bipolar illness symptoms is a temptation that Velligan, et al. 2017, identified in their meta-analysis study as 36.1% of the reason for medication non-adherence in bipolar individuals. All of the 13 studies they evaluated that analyzed the relationship between substance abuse and medication adherence, demonstrated a significant association. Treatment adherence, in general, has been found to be reduced among individuals that have substance abuse issues (Weiss, et al., 1998; Solloum & Thase, 2000).

Other comorbidities

While substance used disorder dominates the comorbid conditions most likely to influence adherence behavior in bipolar patients several studies have identified additional comorbid conditions that negatively impact medication adherence as well. Baldessarini et al., (2008) found obsessive-compulsive disorder to be a comorbid condition that influenced medication non-adherence negatively in bipolar individuals. Likewise, Perlis et al. (2010) discovered that anxiety disorders were associated with poor medication adherence in their

study. Individuals that reported a history of panic attacks were found in the Feske et al. (2000) study to have poor medication adherence also. Other researchers identified personality disorder comorbidity as the greatest factor in a study of euthymic bipolar patients (Colom et. al., 2000).

Illness presentation

Individuals behavior and beliefs can change radically depending on the phase of bipolar illness they are in. A person's perceptions of their illness and beliefs about their ability to control their bipolar illness may fluctuate according to their mood state, ie. depressive, manic, hypomanic, mixed mood, or euthymic (Crowe, et al., 2011; Inder et al., 2008). Insight is subject to extreme variation throughout different phases of bipolar illness. While it has not been an easy variable to study in research, some studies have identified that Poor insight could be related to nonadherence (Gonzalez-Pinto et al., 2010; Velligan et al., 2010).

Individuals with bipolar disorder often feel distressed and seek help for their depression symptoms in that they are experienced internally and for longer periods of time, more so than manic symptoms. On average, without treatment, manic or hypomanic episodes last a few months, whereas depression can often last for longer than six months (Darling, et al., 2008). Arvilommi et al. (2014) found the highest risk for discontinuing medication treatment occurred when bipolar individuals were depressed. The severity of one's illness has been linked to medication nonadherence also (Baldessarini et al.,2008). Those in a mixed episode with rapid cycling or delusions and hallucinations are at a greater risk of non-adherence (Gonzalez-Pinto et al., 2010; Velligan et al., 2010). Also, those who

have made a suicidal attempt in the last year or individuals with a current inpatient status were identified as being more at risk to be nonadherent (Gonzalez-Pinto et al., 2006, 2010).

Treatment factors

Medication side-effects are a leading factor in the reason for non-adherence in persons with bipolar disorder. Complaints vary depending on the medication, however, the primary reported problematic side-effects include weight gain, sedation, cognitive impairment, sexual dysfunction (Leclerc et al., 2013; Gómez Sánchez-Lafuente, Gonzalez, & Abellan, 2017).

Tacchi and Scott, (2005) point out that treatment studies frequently suggest that the side-effect profile of medications is the main cause of nonadherence. These researchers believe that this only part of the reasoning for nonadherence and cannot constitute the primary explanation. They explain that since the 1950,'s and the introduction of psychotropic medications, the non-adherence rates have not changed, regardless of the large variety of different prescriptions introduced.

The clear cause of bipolar disorder remains unknown, and treatment approaches have emerged, at times unexpectedly, as in the case of discovering Lithium's therapeutic effect. Decades of experience have helped scientists refine the empirical data to some extent, however, not having a concrete understanding of a specific mechanism of the disease makes understanding why some medications work better than others for different people very difficult; and results in what has come to be known as the trial-and-error approach to medication treatment for bipolar illness (Mondimore, 2006 p.153). This is when medications are started and then discontinued for either ineffectiveness or intolerable side-effects

(Arvilommi et al., 2014). Like any medical condition bipolar disorder presents with some variability from patient to patient. However, the standard of medications for bipolar disorder are primarily confined to mood stabilizers, and antipsychotics, some anticonvulsants such as Depakote, and sometimes anxiolytics and antidepressants. Despite depression being a major component in bipolar disorder, antidepressant medication must be used with great caution as it has been shown to trigger manic episodes in patients with bipolar disorder and SSRIs have been linked to rapid cycling (Cascade, Reites, & Kalali, 2007). One of the biggest challenges after diagnosis for a bipolar patient is enduring the challenging trial and error approach to medication treatment. Lithium has long been the foundation in bipolar disorder mood stabilizers, and yet it has been found to be effective in only one-third of patients studied (Silverstone et al., 1998). Patients must endure long months and often years of trying to establish the perfect cocktail of medicine for their individual chemistry. The inadequate efficacy of medication treatment has also been identified as a risk factor in non-adherence. If a person experiences no relief from the distressing symptoms of bipolar disorder and/or just the side-effects of the medication it becomes easy for them to lose hope in medication treatment (Velligan et al., 2010). Inaccurate or delayed diagnosis has been reported as a major concern by patients with bipolar disorder. Antipsychotic medications first prescribed for misdiagnosed psychosis, schizophrenia, or schizoaffective disorder must be clearly explained as an appropriate and routine medication for bipolar disorder also. Antipsychotic medications are often considered schizophrenia medication and carry with them stigma leading to non-adherence (Sajatovic & Jenkins, 2007).

The problem of effective treatment

The unexpected and negative side-effects of bipolar medications are understandably a deterrent in further treatment adherence, and yet effective treatment of bipolar disorder with medication can also result in non-adherence due to the effective result being undesirable to the person. Miklowitz (2002) points out a fact that is all too real for individuals with bipolar disorder, many individuals enjoy the "high" feelings of euphoria and grandiosity that accompany hypomanic and manic episodes. They feel productive, driven, cheerful, and invulnerable. Mood stabilizers do just that, they stabilize a person's mood. Much of what is bipolar symptomatology has become intertwined into a person's understanding of who they are, and they see medication as taking away or subduing a part of themselves. This complaint is not only relevant to those that miss the high and roller coaster excitement that their bipolar symptoms brought them, but it also makes individuals feel as if they have lost aspects of their creativity.

Perceived loss of creativity

A fascinating phenomenon is the artistic creativity associated with bipolar disorder. Many famous artists, poets, writers, musicians, and performing artists have or had bipolar disorder; including Sylvia Plath, Anne Sexton, Robert Lowell, Ernest Hemingway, Delamore Schwartz, Vincent van Gogh, and Ludwig van Beethoven to name just a few (Miklowitz, 2002). Whether or not medication truly does disrupt creativity or just seem to do so in bipolar patients, it is undoubtedly a factor in medication non-adherence.

Reality is not good

Side-effects are most often thought of as secondary physical reactions or symptoms that occur as outside the intended purpose or reason the person is taking the medication for. For example, headaches, dry mouth, fatigue, trouble concentrating, etc. However, a side effect of adhering to bipolar medication treatment can also be a much deeper psychological reaction that requires consideration and sensitivity on behalf of the treating treatment professional. An individual may have been ill suffering from the consequence of bipolar disorder for a short or long period of time. They may have behaved in ways or existed in a manner without personal insight for a while. Effective medication treatment may reveal the reality of their present circumstances with a degree of clarity and insight that may be devastating and painful to face. For instance, if a person finds oneself in a forensic psychiatric hospital realizing that they committed a crime while psychotic and the future they face is grim, they may not appreciate the glare of reality that medication stabilization forces upon them. Or the realization that they have destroyed relationships, finances, or a career due to their illness. The shift from what has been an individual's understanding of normal can be unsettling and not easily accepted.

Environmental issues

There are basic and practical issues that also interfere with adequate medication adherence including systemic barriers to care, family, and financial reasons. Systemic barriers account for 50% of individuals not receiving appropriate care (Bhugra & Flick, 2005) and can include a lack of sufficient health insurance to cover the necessary treatment of bipolar disorder, but also just simply a flaw in the approach to care. For example, Bhugra

and Flick (2005) suggest that the current focus of treatment is mainly directed at acute care or reacting to crisis episodes, and not on a more proactive comprehensive, consistent, long-term treatment approach. Sajatovic et al., (2008) found that non-adherence was more likely to occur if follow-up was less intensive and if there were more barriers to receiving care. Another study identified that nearly two-thirds of individuals were unable to pay for medications at least some of the time (Sajatovic et al., 2011). Unstable living situations, homelessness, and limited income make adhering to bipolar treatment especially challenging. Also, appointment complications and challenges, as well as turnover in providers, create further adherence risks (Blixen et al., 2016).

Medication non-adherence can also be due to basic difficulty with remembering to take medication daily, whether due to a specific cognitive impairment or poor medication-taking routines (Sajatovic et al., 2009). Similarly, individuals can fail to get prescriptions refilled in a timely manner, leading to non-adherence. Once non-adherence begins a snowball effect can occur with symptoms developing or worsening, further complicating adherence in the future.

The support from family and loved ones has been identified as a significant component in medication adherence also. How those close to the person with bipolar disorder respond and cope, as well as how they believe and perceive bipolar disorder plays a large role in affecting how the individual with the illness makes decisions toward their own care (Darling, et al., 2008; Blixen et al., 2016) in that they are often giving advice.

The Solution for Treatment Professionals

> *"I cannot imagine leading a normal life without both taking lithium and having had the benefits of psychotherapy...ineffably, psychotherapy heals. It makes some sense of the confusion, reins in the terrifying thoughts and feelings returns some control and hope and possibility of learning from it all… It is where I have believed-or have learned to believe that I might someday be able to contend with all of this. No pill can help me deal with the problem of not wanting to take pills; likewise, no amount of psychotherapy alone can prevent my manias and depressions. I need both."*
>
> -Kay Redfield Jamison (taken from Miklowitz, 2002, p.120)

For decades despite the staggeringly high rates of noncompliance, many mental health services have utilized medication as the only treatment option. Many have not focused on the issues responsible for medication nonadherence (Crowe, Wilson, & Inder, 2011). Medication treatment alone is not the panacea for bipolar disorder treatment, however, it is paramount and vital to prevent recurrence of illness episodes (Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for Bipolar Disorder, 2004) Yet despite even diligent medication adherence illness relapse rates are reported as high as 40% in the first year, 60% in the second year and 73% over five years or more (Gitlin et al., 1995). So, what can treatment professionals do to aid in helping individuals with bipolar disorder adhere to the medication component of their treatment, that will then allow them the ability to fully adhere to all additional treatment interventions that are just as crucial for overall health and wellbeing? The research has found that the most effective means of aiding medication adherence is psychoeducation.

It has been essential to lay a solid foundation for understanding the biochemical nature of bipolar disorder, however, to place all hope of recovery in medication alone would

be as erroneous as foregoing medication. Diagnosis of bipolar disorder is likely to be traumatic for most individuals and their loved ones and require the treatment professional to offer some peace through what Mondimore (2006) describes as how therapy should be for bipolar patients: "providing good information, objective feedback, and solid encouragement in a supportive, confidential setting" (p. 140). The Society of Clinical Psychology states on its website that "Psychoeducation treatment involves providing patients with information about bipolar disorder and its treatment, with a primary goal being to improve adherence to pharmacological treatment by helping patients understand the biological roots of the disorder and the rationale for pharmacological treatments. Patients are also taught the early warning signs for episodes, and common triggers for symptoms." This position is most representative of the viewpoint of psychoeducation for the purpose of this paper.

The primary factors affecting medication non-adherence as earlier reported include patient characteristics, illness presentation, treatment factors, and environmental issues (Arvilommi et al., 2014; Leclerc et al., 2013; Crowe, et al., 2011). Psychoeducation can be applied to each of these primary areas of need.

Patient characteristics

Psychoeducation is where the non-prescribing treatment professional can have the most significant impact on the bipolar patient and their loved ones. In many outpatient cases, this would be best served by a Treatment Professional that could maintain regular sessions with the patient and ensure balanced care is taking place on a long-term basis. The infrequency of treatment appointments and changing care providers have been identified as a risk factor to non-adherence (Blixen et al., 2016) the bipolar patient is ideally going to need

lifelong support that will include an evolution of knowledge about their illness over time. This education begins with simply learning what their illness is, what it will mean for them to live with bipolar successfully, including proper self-care, how to work with their prescribing treatment professional to manage medication/s, and establishing quality support from friends and family.

The absolute first aspect of psychoeducation begins with clearly informing the individual of their bipolar diagnosis. One study by Clary, Dever, and Schweizer (1992) found that more than half of the psychiatric inpatients they studied did not know the condition they were being treated for, the names of the medications they were taking, or the purpose of those medications.

The second step in the psychoeducation process is teaching the individual about bipolar disorder. This should begin with the basics of the illness spectrum and presentation of symptoms, how bipolar disorder is treated, and how to build a personal literacy and create the self-care routines that are essential to living successfully with bipolar disorder. Research has found that in general individuals diagnosed with bipolar disorder simply do not feel they know much about their illness (Velligan et al., 2010; Sajatovic et al., 2011).

Understanding bipolar disorder from a patient perspective begins with knowing the basics of the illness, and what that looks like for them individually. While there are standard presentations of bipolar symptoms, the illness like any illness will have variations unique from individual to individual. The personalization of integrating the facts of the bipolar illness with the unique variables of the individual is an integral component of treatment and likely to yield greater treatment success. Research suggests that the first year following a

patient's bipolar diagnosis is the most critical to receiving the quality education, support, and encouragement necessary through psychotherapy to ensure long-term success (Scott, 1995). It is not only important for the treatment professional to be able to sufficiently answer and put at ease the questions that deal with the patient's past and how they have arrived at this diagnosis, but also what it means in the present, and how they can successfully attain their future goals. An individual with bipolar disorder and even their loved ones may have difficulty piecing out the parts of the individual's behavior that can be attributed to them and what is linked or due to the illness. Jonsdottir et al. (2012) report that patients who have doubts about their illness are more likely to not take medication effectively. It is in therapy that these doubts are best addressed, and confusion clarified. Many of the negative perceptions that individuals with bipolar disorder have can be addressed and/or eliminated with quality psychoeducation.

The approach to educating a patient about bipolar disorder should be twofold; first, as new information is presented to the person that information should be thoroughly discussed and explained. For example, much of the research suggests that concern over medication and fear of adverse side-effects may play a larger role in non-adherence then an actual side-effect experience (Sajatovic et al., 2009). If each prescribed medication was explained to the patient and details regarding potential side-effects, creating a plan if side-effects are burdensome, alternative options, and the pros and cons of each medication option, as well as any questions the person might have, were addressed at the start, the rate of concern and fears would be lessened. The second component involves a systematic long-term teaching the individual about their illness and what it means for them individually. Successful delivery of

this second component of psychoeducation has been presented in different ways, including a group setting (Leclerc et al., 2013) or specifically organized bipolar psychoeducation programs (Eker and Harkin, 2012). Sajatovic et al. (2012) evaluated the effectiveness of a short-term, four-week manualized individual behavioral intervention designed for specifically non-adherent individuals. They found the customized adherence enhancement (CAE) program did improve adherence in participants. While having specific organized psychoeducation programs have proven successful, treatment professionals can utilize that concept and simply approach each session with an organized plan to educate the patient on the present concerns of their illness and anticipate future concerns that may arise.

Having the knowledge that alcohol and substance use are significant factors in patient non-adherence and that they create additional complications to overall bipolar patient health requires the topic be addressed early-on in treatment. Addressing the unique needs that everyone has regarding alcohol and substance use will best inform the treatment professional as to what is most important to the person's overall care. For instance, an individual with little difficulty in this area may require a simple explanation of the drawbacks and repercussions of usage. Whereas, an individual with a more habitual usage may require more intensive treatment.

Additionally, the treating professional can address any comorbid conditions, such as the previously identified obsessive-compulsive disorder, or anxiety that may be hindrances to a patient's adherence and overall care.

Stigma

The treatment professional should expect and do all possible to counter stigma. Kamaradova et. al, (2016) found in their study that the level of self-stigma was associated with not only medication adherence but discontinuing treatment of any kind. Mental illness diagnoses carry a great deal of confusion and misunderstanding. Bipolar disorder is a relatively well known mental illness discussed widely in the media. The accuracy of what bipolar disorder as an illness is, is less understood (Vilhauer, R.P., 2015). However, one thing that is clear to a person receiving the bipolar diagnosis is that they have a major mental illness. The issue of responsibility becomes a factor when receiving a mental health diagnosis. In most cases how we speak and behave, seems to be in our control, particularly in contrast to behavior out of our control such as sneezing, or running a fever. When a medical illness presents, and we receive a diagnosis it is not common for the receiving party to feel they have caused the medical condition. For instance, baring very clear correlations between someone that was a chronic chain-smoker that receives a lung cancer diagnosis, or someone that has unprotected sex and develops a sexually transmitted disease; most people that learn they have a serious medical condition must often face the randomness of why their body has developed the illness. In some cases, a family history may reveal that the illness has been transmitted due to a familial link, but the person is not usually faced with a sense of blame or responsibility for causing their symptoms. However, in mental illness, the symptoms present behaviorally and therefore it is difficult to separate responsibility for those behaviors onto the illness and away from the individual. In the situation of bipolar disorder symptom presentation, it is easy for the

individual or their loved ones to struggle with seeing the symptomatic behaviors as presentations of an illness. When someone runs up their credit cards making frivolous purchases or is unable to get out of bed and go to work those can be clear behaviors linked to bipolar disorder symptoms, and yet because they have the appearance of being willful choices that necessitate someone bare responsibility. This is a complicated and long debated topic that will not be further pursued in this paper, however, in the case of bipolar disorder history and present science has shown its biological origins. Howland, et al. (2016) suggest that cognitive-behavioral strategies may help modify the internal stigma experienced by individuals with bipolar disorder. Helping the patient understand that their brain is an organ, and like every other organ in the human body it can malfunction and become unhealthy. When the brain becomes unhealthy one of the most prominent ways this presents is in a person's behavior, helping people understand this fact is crucial for acceptance of a bipolar diagnosis. The treating professional should assume self-stigma exists and realize the level experienced will considerably influence the treatment process (Kamaradova et al., 2016).

Long used pejoratives such as "crazy" that have been associated with mental illness contribute to a deep sense of marginalization for those faced with a bipolar disorder diagnosis. Howland et al. (2016) explain that society often defines the experience of hallucinations as mentally abnormal or "crazy." They suggest that treatment professionals should seek to combat the patient's internalized stigma by explaining hallucinations or other bipolar symptoms as common components of a biological illness. Pointing out those individuals in society that have learned to live successfully with their illness can be

encouraging to the individual trying to make sense of what this diagnosis means for their future. A treatment professional can do a simple internet search to familiarize themselves with celebrities that have openly discussed their bipolar diagnosis to help their client combat stigma. Kay Redfield Jamison is a successful Clinical Psychologist, author, mental health advocate, and she also has bipolar disorder; her books on the subject may be helpful to instilling hope for a person struggling with a bipolar diagnosis. This type of explanation is psychoeducation, helping the patient gain perspective and not feel alone or isolated with their illness. The goal in combating stigma is to improve a person's self-efficacy and address the internalized stigma. Livingston and Boyd (2010), point out that psychoeducation is the answer to helping individuals with bipolar with these areas, and they also recommend group cognitive behavioral therapy sessions. Cognitive behavioral therapy has been found in several studies to be an effective form of therapy when working with bipolar patients (Chaing et al., 2017).

Illness presentation

Psychoeducation can help an individual with bipolar disorder better recognize how the illness manifests in their lives specifically. While there are the basic aspects of the illness presentation it is essential that individuals learn to recognize what each mood presentation looks like in themselves. The basics of bipolar illness presentation will entail the general understanding of how the condition presents from both an internal perspective, as well as, an external observable perspective. In other words, what the patient feels and experiences and what others observe.

Moreover, it is essential to foster the individualized understanding of how the disorder will present uniquely in the patient's life. This unique understanding begins with the individual's specific bipolar disorder diagnosis. For instance, do they experience manic episodes or only hypomanic episodes? A patient with a bipolar I diagnosis will need to understand that depression, hypomania, and mania are all components of the illness. Of great importance is educating the patient on the possibility and presentation symptoms of psychosis.

Understanding that stress is a major contributor to the onset and progression of bipolar disorder places a great importance on helping the individual with bipolar disorder manage and place meaning on the demands and resources they have, to maintain a state of homeostasis (Boss, 2002; Lavee, McCubbin & Olson, 1987; Watzlawick, Beavin & Jackson, 1967). Homeostasis at its most fundamental is creating balance in one's life, this is a key component of what a person with bipolar disorder must learn to achieve their greatest health. Darling et al. (2008) explain that their research identified the benefits of a person developing and maintaining an internal health locus of control, or the view that the individual believes their behavior is a primary factor in their overall health. And, is opposed to the idea that one's health is due to the actions of powerful others, such as doctors, family members; likewise, in chance, fate, or luck. Teaching a person to be their greatest advocate is a primary goal of the treatment professional.

The idea of ultimate self-advocacy in the case of someone with bipolar disorder involves the treatment professional providing as much information about the illness, how the illness presents in the individual, the factors unique to that person's life and relationships that

influence their health and how with all that knowledge they can become their own health expert. This is a long journey of recognizing triggers that disrupt balance and lead to mood disturbance, what the prodromal signs and symptoms are too different illness phases, what steps the individual can take to prevent episodes or the progression of an episode. All of this self-advocacy involves a thorough and clear knowledge of the role of medication in self-management and the importance of adhering to medication treatment.

Treatment factors

Medication is the foundational treatment for bipolar disorder and with it comes the need for the individual with bipolar disorder to become a mini-expert on the medications used to treat the illness, how those medications work, including side-effects, necessary lab work, and alternatives to each type of medication. The more informed a person is the more empowered they are to be their best advocate. If a person understands at the forefront the potential side-effects of a medication, the possible duration of those side-effects, ways to manage or deal with those effects, and the alternative options if the medication is simply ineffective or too much for the person to live with, then the individual is more likely to continue to work with their prescribing treatment professional and follow through with treatment adherence.

Sajatovic et al. (2011) tout the benefits of technology-assisted prompts in aiding individuals with bipolar disorder better manage their lives and live with their illness. These can include pill counting devices to ensure proper adherence and awareness of dosing, devices to track sleep and mood patterns. Recognizing that the most basic reasons for non-adherence are sometimes those common to all individuals that must take medication

routinely, like simply forgetting to take their medication, or failing to refill medication on time. Mail order medication that comes straight to the person's home or automatic refill programs with their pharmacy can be very helpful.

Environmental issues

The environmental concerns surrounding non-adherence can be more challenging for treatment professionals to address, specifically those systematic barriers such as health insurance, or financial limitations. Familiarize with free resources, and support, ie. library, nonprofits organizations, etc.

The role of significant others, including family, friends, spouses etc. and the crucial role they play in the overall health and life of a person with bipolar cannot be emphasized enough. Studies have found that being single, or living without a partner is a risk factor in adherence to treatment (Kamaradova et al., 2016) and the understanding or misunderstanding that the supportive persons in a patient's life have plays a major role in self-stigma and how they conceptualize their illness and its treatment (Blixen et al., 2016) Psychoeducation can play a significant role in aiding the supporting family and loved ones of an individual with bipolar disorder. Malhi et al. (2009) found a reduction in the number of recurrent episodes and greater length of time between episodes for the group of bipolar patients whose primary loved ones were involved in a psychoeducation program. A program designed by Miklowitz and Goldstein called Family-Focused Therapy includes a combination of psychoeducation and skills-based training provided to the patient and their family over a 9-month period following a bipolar episode found that mood disorder symptoms, adherence to medication

improved, as well as fewer relapses over follow up periods of up to two years following the program (Rea, et al, 2003; Miklowitz, et al. 2003).

The Future of Bipolar Disorder and Effective Treatment

Mind-brain origins

Great thinkers have pondered and sought to understand how mind and body are related for hundreds of years. Ancient Greeks generally accepted the idea that the body and soul were separate. Rene Descartes further explored the question of what constitutes the human mind, and how are the mind and body related. This involved looking at the mind as mental processes, our thoughts, and consciousness. The brain, its structure, and how it functions would constitute the body. The long-standing questions involve where does one end and the other begin, and how do mind and body interact? Dualism is the idea that mind and body exist separately. Mind being nonphysical, and the body or brain being physical. Descartes proposed that there was a two-way interaction between the nonphysical mind and the physical brain/body; this is known as Cartesian dualism (Mcleod, 2018). According to Descartes, the body was subject to mechanical laws; however, the mind was not (Mehta, 2011). Where does this enduring philosophical problem apply to mental illness today?

Neeta Mehta, PhD, explains in her article "Mind-body Dualism: a critique from a Health Perspective," (2011) that Cartesian dualism opened the door for scientific and medical study of the body, by challenging the religious views that body and soul/mind were one, an idea that prevented the study of the human body via dissection. However, she notes that by isolating the mind from the body, mind-body dualism denies the mind's significance in the health experiences of individuals.

In his article, “The Pernicious Effect of Mind/Body Dualism in Psychiatry,” Joachim Raese (2015), states,

> *“Mind/Body dualism has adverse consequences for psychiatry, such as stigmatization of mental illness, restricted funding for research and patient care, discrimination against patients with psychiatric or addictive disease in the insurance marketplace and leads to cognitive distortions affecting the training and practice of psychiatry.”*

Does accepting dualism mean that etiology of mental illness somehow rests in the responsibility of the individual suffering? If so, it is understandable that those individuals would be stigmatized, if somehow, they can work or will themselves to balance. A large research study including 250 students at Edinburgh University, and 1858 healthcare workers and members of the public, found that most of the participants regarded mind and brain as separate entities (Demertzi, et al., 2009). Moreover, 270 psychiatrists and psychologists at McGill University were given self-report questionnaires. This study found a significant number of participants responded indicating that they believed patient’s symptoms due to psychological responsibility rather than a physical brain-based origin. (Miraseco & Kirmayer, 2006).

Over a hundred years ago, neurology and psychiatry were a single specialized science. Kraepelin, Alzheimer, Freud, and Meyer would be classified today as neuropsychiatrists. They treated a range of conditions brain including stroke, epilepsy, tertiary syphilis, psychosis, depression, and anxiety. Illnesses of the mind, that presented as emotions, thoughts, and behaviors were considered to be manifestations of brain pathology, and scientific exploration was rooted in this understanding (Nasrallah, 2013).

In 1906 major discoveries identifying the biological causes of general paresis as a Syphilitic infection, and the chemical and anatomical abnormalities of what we know today as Alzheimer's disease, fueled hope that the biochemical source of other mental illnesses like manic depression and schizophrenia could also be discovered. When the efforts to identify the physical cause of manic depression (bipolar disorder) and schizophrenia failed, physicians such as Sigmund Freud and Adolf Meyer, labeled them functional illnesses; ones rooted in the mind, rather than the brain. They sought to discover the source of dysfunction in patient relational and experiential histories (Mondimore, 2006).

The present advantage of modern science and high-tech tools to assess cognitive and affective brain disorders was not available to early neuropsychiatry researchers, and as such their theories appear flawed and limited today. Similar to the way in which germ theory of disease illuminated the true source of disease for medical science, and put to rest erroneous theories such as the miasma or "bad air" theory of disease, current knowledge of neurochemistry, receptors, neurotransmitters, and brain circuits enable researchers to localize root causes and links to mental illness (Nash, 2007; Nasrallah, 2013).

Editor-in-Chief of *Current Psychiatry,* Henry A. Nasrallah, M.D. (2013), explains that when in the 1950s, the American Medical Association's *Archives of Neurology and Psychiatry* was split into *Archives of Neurology* and *Archives of General Psychiatry* the two specialties drifted apart significantly impacting clinical, educational, and research emphases. Dr. Nasrallah explains that over the past fifty years we have lost important scientific understandings regarding higher brain functioning due to separating diseases of the brain

from those of the mind. Despite this political rift, some of the scientific underpinnings of mental illnesses and the links to brain chemistry managed to emerge.

The early discovery in 1957 by Swiss psychiatrist Roland Kuhn, that Imipramine Hydrochloride had therapeutic effects on depressed patients, but led to manic symptoms in other patients, led to the recognition of a link between a biochemical relationship and bipolar disorder symptoms (Mondimore, 2006). A similar observation was made when patients were given the drug reserpine for high blood pressure and became severely depressed. It was recognized that reserpine depletes monoamine neurotransmitters, including dopamine, serotonin, and norepinephrine. The idea that monoamines are reduced in depression was confirmed with postmortem studies of suicide victims (Kolb and Whishaw, 2015). Neuroscientists have found that nearly all medications that effectively treat depression create a block in neurotransmitter reuptake in brain cells. The amine hypothesis of mood disorders is a theory that suggests depression is caused by abnormally low levels of neurotransmitters and that mania is caused by too high a level (Mondimore, 2006).

Understanding how brain affects the mind, and the identification of effective psychopharmacological interventions that work directly on brain functions, has had monumental impacts on how conditions classified as mental illnesses are treated. Antipsychotics specifically played a major role in allowing for individuals to live outside of psychiatric institutions and in the community (Stroup & Manderscheid, 1988).

Monism

Where Cartesian dualism first opened the door to effective and broad scientific understanding, is the answer to scientific progress today, a need to close the door on mind-

body dualism? Dr. Mehta (2009), explains that while mind-body dualism once enabled science to circumvent religious roadblocks to science, it also, *"cost us dearly as it took our focus away from the dynamic nature of human beings, their relationship with the environment and their real health concerns."* He further explains that this flawed mind body dualism thinking has inhibited the development of truly effective treatment means.

Joachim Raese (2015) outlines how Consciousness, Phenomenal First-Person Experience (Qualia), Free Will, and the idea of the Soul have dominated the reasoning for maintaining a mind-body/brain dualism dominate perspective on mental illness. However, Raese highlights the role of neuroplasticity and neuroscientific discoveries in the areas of consciousness, phenomenal qualia, free will and the self/soul, as sufficiently addressing these once considered barriers to physicalism?

Consciousness is laid out by Raese (2015), as identifiable metacognitive processes linked to studies of various cortical regions; *prefrontal, parietal and parahippocampal*. Raese points out, that neuroscience has historically avoided the study of consciousness due to the belief that the subjective nature of consciousness made it unavailable to objective scientific inquiry. To the idea of Free Will, Raese references a study's findings where a participant's physical movement intentions were discovered to be encoded in frontopolar cortex up to seven seconds before the person was even aware of their decision. The studies findings supported the understanding that a network of brain regions exist that contribute to the formation of decision making before the intention reaches a person's conscious awareness. In regard to phenomenal first-person experience (qualia**)**, Raese utilizes a study on rats using a brain- to- brain interface (BTBI) that showed the real time exchange of

sensorimotor information between the brains of the two animals. Lastly, the idea of the **Self** is also explainable through neuroscience as our ability to engage in self-referential mental activity, according to Raese. These perspectives challenge the idea of maintaining a medically driven approach based in the once limited separation of mind and brain understanding.

Integrated understanding

The need for a mind-body/brain dualism was necessary for the advancement of human understanding at one time, and today there is a clear movement to radically shift in a seemingly dramatic overcorrection toward a physical monism. It is understandable that with the regularity of emerging neuroscience discoveries and links between brain and mental processes that the "science" would serve as best practice approach to mental illness, if a science exists to explain and treat. However, the arguments seem insufficient to dismiss dualism altogether. Along with the need for better integration or collaboration of neurology, psychiatry, and psychology fields, perhaps, new nosology should be created to explain a novel concept that offers a collaboration of modern understanding of mind-brain dualism and physical monism. The article, *Psychosis as a State of Aberrant Salience: A Framework Linking Biology, Phenomenology, and Pharmacology in Schizophrenia,* by Shitij Kapur, M.D. (2003), illustrates how an alliance of this type works to create the ideal understanding of mental illness. In this article, Dr. Kapur identifies that the mesolimbic dopamine system as a critical component in the "attribution of salience." This is a process that occurs when various experiences, either from external or internal sources influence one's attention, drive action, and influence goal-directed behavior because of their association with reward or

punishment. In the case of psychosis, a person experiences a strong need to gain clarity regarding the situation created by the dopamine system. The sense that the individual with psychosis makes of a dopamine created aberrant experience is a top-down subjective explanation. For instance, an individual in a rural African village will have a vastly different explanation for aberrant saliences then an individual living in urban New York city. One needs to have first learned that a Central Intelligence Agency (CIA) exists to attribute an aberrant salience to the working of the CIA.

A novel approach that combines the efforts of neurology, psychiatry, and psychology with respect to the objective findings of neuroscience while also allowing for the phenomenological subjective experience of the individual, is the most ideal approach to treating mental illness today.

Not unlike the illness itself the collective view on bipolar disorder classification has experienced peaks and valleys, beginning with the earliest Greek thinkers, through the dark ages into the Enlightenment, and beyond Freud's functional explanation; however, the current consensus amongst the science-minded is that bipolar disorder is, in fact, a biological illness. The exact cause has continued to confound researchers, but the future of genetic tests may help shed light on who is most likely to develop bipolar disorder and need early intervention. The cost of mapping a person's DNA has dramatically decreased in the past decade. In pursuit of answers specific to bipolar disorder and schizophrenia, The Psychiatric Genomics Consortium was founded in 2007; it includes over eighty institutions from twenty-five countries sharing genetic data from more than 170,000 participants. In 2008, a U.S. based Genomic Psychiatry Cohort was formed including a dozen academic institutions, the

National Institutes of Health and nearly 40,000 participants. Researchers have already recognized that there is no single gene responsible for bipolar disorder, but the clear indication that the illness runs in families fuels the quest for clarity (Forbes, 2015). Researchers are already finding specific genetic variants related to bipolar disorder. Frye et al. (2017), have found an association between DNA haplogroup U and psychosis in bipolar disorder. Another grand possibility on the horizon is the ability for researchers to narrow down the specific pharmaceutical treatment for an individual, based on clues discovered in their personal biological markers. This would eliminate the trial-and-error methods currently used to find the proper treatment for bipolar patients. The hope is that one day researchers will be able to send bipolar disorder the way of general paresis, identifying its precise cause and simplifying treatment for those with this condition. Until that day medication is a necessary foundation for bipolar disorder treatment. The significant deficits in social cognition as seen in theory of mind research, the possibilities of neuroprogression and myriad of detrimental outcomes of bipolar illness episodes, such as suicide, eliminate a non-medication approach unrealistic and potentially harmful. The reasons individuals fail to adequately adhere to medication is attributed to a range of factors included in specific patient characteristics, the illnesses unique presentation of episodes, treatment variables, and environmental issues. Research has concluded that thorough and comprehensive psychoeducation is the solution to aid individuals in medication treatment adherence. Treatment professionals working with individuals with bipolar disorder will likely face issues regarding medication adherence at some point, having the resources and understanding on how best to address these concerns will be essential to quality patient care. Those who

adhere to medication treatment are significantly more likely to report that they are more content with their lives and feel less overall health related stress (Darling, et al., 2008).

Psychotherapeutic Interventions Specific for Bipolar Disorder

Evidence-based practice (EBP) stems from evidence-based medicine (EBM) and the idea that a diagnosis or disease is the target or goal of the clinician to resolve via elimination or improvement (Gomory, 2013). EBP originated in the United Kingdom and extended to the mental health field there. In the United States a similar movement began in the 1990,'s it emphasized research findings as a guide for clinical practice, called Empirically Supported Treatment (EST) (Wampold & Bhati, 2004). In 2006 the American Psychological Association developed evidence-based practice in psychology (EBPP), a more culturally sensitive approach to applying researched therapeutic interventions in clinical practice (La Roche & Christopher, 2009).

The concerns and challenges of EBPP involve the effectiveness of generalizing treatment research, that takes place in controlled environments with selected samples, to typical clinical practice (Hunsley, 2007). Furthermore, in much of psychotherapy the work is not focused exclusively on a target or elimination of symptoms, rather it is about a process of coping with life and all of the complexities involved (Kazdin, 2008). The role of the psychologist in research is largely ignored, and the unique influence of various psychologists on the outcome of treatment secondary to the treatment itself (Wampold and Bhati, 2004).

Psychologists do have an ethical obligation to offer evidence-informed services (Stuart & Lilienfeld, 2007). Identify and tracking a client's progress in therapy is important, and ultimately the psychologist is the clinical expert and should select the best treatment

possible whether it be one verified in research literature or individualized (Kazdin, 2008); this constitutes the "best practice" in psychological treatment. Research has been able to aid in identifying treatments found effective in more real-world settings, such as clinics, but those studies are not as readily available as those studies researched in lab conditions. Psychologists may find no published research on effectiveness studies for many of the conditions they are seeking to utilize best practice with (Hunsley, 2007). So, while available research can help inform treatment in practice, it cannot alone serve as the primary foundation for treatment. This is applicable when looking at a treatment that is culturally relevant. What is considered EBP in some instances with certain populations in specific conditions is ultimately limited by the boundaries of research studies and can be challenging to generalize to the vast diversity of potential clients (Kirmayer, 2012).

Evidence based treatments for bipolar disorder are listed as psychopharmacological (Connolly & Thase, 2011). However, several psychotherapeutic treatment programs are considered EST, and designed to address bipolar disorder symptoms. The American Psychological Association (APA) Society of Clinical Psychology Division 12 (2019), lists five psychological treatments for bipolar disorder that have research recognizing their efficacy for various bipolar disorder aspects. All of the five programs are modifications from other treatment theories. Interpersonal and Social Rhythm Therapy (IPSRT) was created solely for the treatment of bipolar disorder and is modified from the Klerman and Weisman *Interpersonal Therapy* program for depression. The other four treatment programs include Cognitive Therapy (CT) for Bipolar Disorder; Family Focused Therapy (FFT) for Bipolar

Disorder; Psychoeducation for Bipolar Disorder; and Systematic Care for Bipolar Disorder (Society of Clinical Psychology, 2019).

IPSRT integrates the original Interpersonal Psychotherapy (IPT), with specific bipolar sleep schedule management. The original IPT has a main goal to improve the quality of a client's interpersonal relationships and social functioning, in order to reduce distress. It addresses four key areas; interpersonal deficits, manage grief, cope with life transitions, interpersonal conflicts (Klerman & Weisman, 1994). Research by Frank et al. (2005) found that acute treatment sessions lead to significant improvements in symptoms of depression, maintenance sessions did not result in significant symptom improvement.

CT for Bipolar Disorder can be found in a variety of different manuals and can be in either individual or group formats. All CT manuals include components that address bipolar psychoeducation along with a focus on identifying cognitive distortions and errors. The one-year report of the Systematic Treatment Enhancement Program for bipolar disorder and additional research have found that the CT manual by Dominic H. Lam, Steven H. Jones, and Peter Hayward was supported positively by the findings which included evidence of lessening manic symptoms over time (STEP; Miklowitz et al., 2007). The research on CT for bipolar disorder found modest support for both improvement in mania and depression (Society of Clinical Psychology, 2019).

FFT for Bipolar Disorder is a modified version of the therapy originally developed for treating individuals with schizophrenia (Goldstein & Milkowitz, 1995). This therapy includes all immediate members of the patient's family and focuses on psychoeducation and teaches the family appropriate coping responses to symptoms. The family also learns

communication and problem-solving skills. There is some evidence to suggest FFT can aid in depression (Society of Clinical Psychology, 2019).

Psychoeducation for bipolar disorder is foundational in any effective treatment program and has, as mentioned earlier, strong research support to suggest it helps with medication adherence and also in lessening manic symptoms. The goal of psychoeducation for bipolar disorder is to help patients understand the biological nature of the illness and necessity of medicine as well as signs and triggers for illness episodes. Group psychoeducation for bipolar are recognized as being especially effective (Colom & Vieta, 2003).

Lastly, a systemic care approach to bipolar disorder has shown evidence in lessening mania. Care is provided by an outpatient team made up of a nurse care coordinator and a psychiatrist. Psychoeducation is provided in a group format and telephone consultations are utilized. The Life Goals Program is a systematic care intervention that combines group psychoeducation and also has participants create a customized self-management plan specific to their early warning signs, it consists of 5 weekly group sessions and twice monthly sessions for up to forty-three sessions (Simon et al., 2006).

A variety of psychotherapeutic treatment approaches have been found to be effective in resolving aspects of bipolar illness in some individuals. Effective holistic treatment for the management of the range of presenting bipolar symptoms has yet to be identified.

Telepsychology and Bipolar Disorder Treatment

The desire to reach underserved populations, serve individuals with disabilities, those with specialized language or other needs, or simply convenience in scheduling has led to an

increase in therapy services offered through a variety of technological modalities. This trend is called telepsychology or telemental health and is a branch of telemedicine. The types of technology most commonly used in telepsychology are phone, email, webcams, mobile apps, webpages, or adaptive and assistive equipment (American Psychological Association [APA], 2018).

Psychotherapy delivered via various technological modalities offer a range of established advantages for the client. For example, flexibility scheduling appointments, accessibility to services; as well as a solution to transportation challenges, childcare concerns, and perceived stigma of receiving mental health treatment are reasons clients appreciate telepsychology services (Bee, Lovell, Lidbetter, Easton, & Gask, 2010; Mohr et al., 2005). Psychotherapy utilizing cognitive behavioral therapy (CBT), delivered via telepsychology, was well received by clients in a 2008 meta-analysis. That study found a mean attrition rate of about 8% for psychotherapy conducted by phone for the treatment of depression (Mohr et al.). Those findings were considerably lower than the 47% attrition rate found by an earlier study of traditional face-to-face CBT psychotherapy (Wierzbicki & Pekarik, 1993).

Several studies have focused specifically on telepsychology and bipolar disorder treatment. A study in 2010, by Nicholas, et al., sought to understand the reasons that an online bipolar education program, designed to provide psychoeducation to individuals newly diagnosed had attrition rates similar to face-to-face therapy, at 26.5%. The findings identified that the primary reasons for not completing the online program were related to difficulties the individuals were experiencing in the acute phases of bipolar disorder such as

lack of energy and motivation due to depression. Also, participants indicated a desire to repress and avoiding the reality of their new diagnosis kept them from wanting to review the material regularly. Others stated that the program was not specific enough to their unique needs. Studies looking at purely internet-based programs for bipolar disorder, found that individuals appreciate the agency that self-management allows, they want a program that is individualized and seeks to improve their overall quality of life, not just manage symptoms (Todd, Jones, & Lobban, 2013).

Murane et. al. (2016) looked at how individuals with bipolar disorder use various types of technology to monitor their condition. The researchers found that participants used computer software, smartphone and tablet applications, websites, and wearable digital devices with corresponding software or apps, to track their mood, sleep, finances, exercise, and sociability. Participants reported an overall greater sense of peace, a feeling that their lives felt more structured, manageable, and purposeful as a result of the self-agency that data tracking created. Additionally, the research by Murane et. al. (2016) found that respondents noted that self-monitoring assisted in helping individuals establish patterns of recovery for dealing with mood shifts. Increased insight lead to greater self-confidence, better use of coping strategies, and helped combat self-criticism and hopelessness. This was explained as due to the ability to better maintain a long-term healthy perspective, optimism, and endurance through particularly challenging times. Self – tracking one's mood and symptoms resulted in both self-compassion and self-efficacy, leading to better decision making from a nurturing and kind internal perspective when considering their mental health. The greater overall self-awareness was noted as especially important when participants were faced with

difficult mood episodes or the onset of more severe symptoms, when they needed to seek assistance from others.

SUMMARY OF LITERATURE REVIEW

The review of literature covered the earliest origins of bipolar disorder indicated in human history. The biological nature of the illness and its status as a severe and persistent mental illness requiring psychopharmaceutical interventions as the foundation and standard of care were also carefully reviewed. Next, the problem of medication adherence for individuals suffering from bipolar disorder, and the factors contributing to adherence was fully explored. Looking at how treatment professionals can increase and ensure proper adherence was laid out from present research literature. Bipolar disorder's complex nature and confounding treatment process as well as the need for more research into clearer and more efficacious means of diagnosing and treating were also looked at. The more radical emergent treatment options were briefly discussed. Due to the biopsychosocial aspects of the illness, the recognized psychotherapeutic interventions were reviewed and noted to treat only aspects of the illness symptoms. The current debate over the mind-dualism and divisions amongst the fields of psychology, psychiatry, and neurology are also discussed. To cover a broader range of symptoms requires treatment from a scattered variety of theoretical interventions, and not cohesive or comprehensive. Telepsychology and its ability to bridge the gap and allow for continuity of psychotherapy is highlighted. Research on what individuals with bipolar disorder want from web-based treatment is identified. Finally, the latest in cutting edge technological devices aimed at better treatment for bipolar disorder is laid out in this literature review.

Clinical Implications

The complex and biopsychosocial nature of bipolar disorder has confounded scientists, complicated treatment, and inhibited those suffering with the illness from receiving the most comprehensive care. The advent of telepsychological interventions and tools, may allow for a complete, and truly holistic treatment model to be designed. This treatment model could aid in addressing bipolar disorder recovery in a way not possible in the past. The model should assist in providing the necessary psychoeducation identified in the research literature as crucial to proper medication adherence. With this foundational treatment variable in place, the ideal model could further guide psychotherapists in customizing treatment for each individual, and allow psychotherapists to play a larger role in treating individuals living with bipolar disorder; clients that have been primarily reliant on psychopharmacology alone. Ultimately, a model that accounts for the broad range of treatment factors presented in the research literature can aid in ensuring long-term, comprehensive bipolar disorder treatment, and the most successful outcomes for those suffering with the condition.

CHAPTER III

BIPOLAR INDIVIDUALIZED BALANCE (BIB) – MODEL

Introduction to the model

At present, the course of treatment for individuals with bipolar disorder is ambiguous, complex, and disconcerting to even seasoned mental health professionals. Research indicates that the expectancy of recovery and success for individuals with bipolar disorder is a long arduous journey that not all individuals can or will attain. The goal of this project is to create a model that organizes and allies the discordant aspects of bipolar treatment and enables a more cohesive course of efficacious treatment. Through the use of technology, telemental health/telepsychology can allow psychotherapeutic treatment to efficiently support proper psychopharmacological treatment, ameliorate attrition and/or treatment noncompliance, thus allowing for necessary psychotherapy to occur, and overall treatment of bipolar disorder to remain more consistent and effective, enabling long-term recovery. This model is designed from a biopsychosocial perspective, addressing all aspects of the bipolar disorder illness, and seeking holistic long-term illness.

Rationale for Model

Effective treatment of bipolar disorder requires the complimentary combination of both psychopharmacological and psychotherapeutic interventions (Mondimore, 2014). However, this necessary harmony of interventions does not easily occur. Research suggests that individuals with bipolar disorder struggle with appropriate medication adherence, and without this foundational aspect of bipolar treatment they lose the insight and stability to maintain psychotherapy treatment. To further complicate this matter, the key to ensuring medication adherence is psychotherapeutic interventions. This paradoxical situation can lead

to deleterious outcomes. Poor treatment of bipolar disorder can be life-threatening, leading to suicide, hospitalizations, and impaired quality of life for the individual and their loved ones. Neuroscience research suggests that failure to effectively treat bipolar disorder can lead to kindling, or a progression of more rapid and complex presentation of symptoms. A specifically designed treatment model, utilizing technology, for individuals with bipolar disorder could amend the present treatment dilemma.

There is presently no psychotherapeutic model that integrates efficacious researched treatment for bipolar disorder to provide a fully comprehensive, flexible, therapy for individuals. Furthermore, there is not treatment model designed to utilize telepsychology technology to maximize successful treatment outcomes in bipolar therapy.

Theoretical Foundations

Bipolar is recognized as a mental illness with a biological foundation. The primary and foundational theoretical position of this treatment model is biopsychosocial. Treatment must encompass and account for all three domains of the biopsychosocial model: biological, psychological, and social. Biological components will be derived from clear standard of care and evidence-based information regarding pharmaceutical treatment and contraindications. The psychological and social domains will be an integration of the therapist's established psychotherapeutic orientation and the specific guidelines of the model designed to provide the bipolar client with a complete and effective psychotherapy treatment experience.

Core Assumptions

It is important to note that due to the nature of bipolar disorder as a biologically based illness that remains in many ways a mystery to modern scientists, and emergent research continues to present with new findings; as well as the technological component of this model,

from a similarly ever-changing arena, this model serves primarily as an outline to comprehensive treatment for the individual with bipolar disorder and is not intended as a recipe to be followed with precision.

This model focuses on establishing balance and overall wellness and quality of life for the individual with bipolar disorder. The model focuses on three primary elements of treatment to achieve ideal outcomes; these elements include physiology and prescription medication, personal psychotherapeutic treatment needs, and ideal interpersonal relationships. The overarching component of this model is utilizing technology to collect individualized data to aid in establishing patterns that will better guide treatment efforts in the three key elements.

The treatment team component of this model primarily indicates a need for a psychotherapist and a prescribing clinician. At present many prescribing clinicians are psychiatrists. However, nurse practitioners, and in some places, psychologists, can also prescribe psychotropic medications. The amount of time most prescribing clinicians spend meeting with patients does not permit appropriate time for in-depth psychoeducation/psychotherapy. These appointments are primarily focused on medication management (Milkowitz & Gitlin, 2014). The BIB Model addresses the psychotherapeutic treatment void that occurs due to the present standard of care practices for bipolar disorder in the medical community.

This model will function in a traditional psychotherapy treatment format beginning with and relying on face-to-face sessions to make up the bulk of the client's psychotherapy work. However, telepsychology technology will be an integral aspect of the model and serve to ensure comprehensive continuity of care. Client's will have consented early on to allow

the clinician access to various mediums designed to track and communicate information, i.e. video chat, telephone calls, texting, smartphone apps, fitness devices, web based shared documents, etc.; that will enable the clinician to evaluate the client's mental health and adjust treatment accordingly. Moreover, the client will need to consent for the psychotherapist to communicate with the prescribing clinician and support persons if deemed necessary.

Conceptualization of the Process of Change

Balance and quality of life that extends for the longest possible amount of time between distressing symptoms, as determined by the client, will indicate change. Psychotherapeutic growth will be unique to each individual's background and their specific presentation of each of the domains of comprising the model's focus, i.e. biological, psychological, and social. Individuals will vary in symptoms, personality, insight, coping, etc. For some, growth and change in psychotherapy would be expected to move faster if the client arrived with less prior maladaptive mental circumstances before their diagnosis, and slower for those that may have more complicated illness presentation (biological), trauma history, or comorbid diagnoses.

This model recognizes that to achieve ideal balance an individual must have clear insight, awareness, and understanding of their diagnosis; and what it means for their unique intersection of biopsychosocial variables. Psychoeducation and recognizing personal patterns are the means in which this model proposes that this goal is achieved.

The Model: An Overview

The BIB Model seeks to assist the client with bipolar disorder in sustainable long-term mental health stability, through fostering greater self-awareness, insight, and self-empowerment toward the ultimate goals of hope for the future and consistent overall highest quality of life.

The BIB Model is a customized, flexible guide for psychotherapists treating clients diagnosed with bipolar disorder. The model can be utilized for newly diagnosed clients or those with longer treatment histories. The use of telehealth to maintain treatment continuity, and individualized data tracking tools to obtain a client's unique presentation of physical and mental symptoms, behavior, emotions, and interpersonal interactions; is the key to the BIB Model's Primary Overarching Standard. The model consists of 10 treatment modules. The modules are organized into three main Domains, Rx-Physiology and Medication; Self-Individualized Treatment; and Others-Interpersonal Factors.

The domains help to organize and ensure holistic treatment, while the modules are intended to be used in the manner and order relevant to each unique client presentation.

For whom is model best suited

Individuals with a bipolar disorder diagnosis that are seeking comprehensive treatment to improve overall quality of life. Client's must be open to medication treatment and willingness to work with a prescribing clinician.

Screening process

Therapist (Clinical psychologist) initial diagnosis. Or prior diagnosis from psychiatrist or psychologist, history of treatment and diagnosis for bipolar.

Role of Facilitator/Therapist

The psychotherapist can and should function within their orientation or training, utilizing their own knowledge of psychotherapy techniques and treatment while incorporating the key components of this model into the treatment of the client with bipolar disorder.

Therapist Training

This model is designed to be used by a trained psychotherapist. Additionally, for a clinician to work with an individual with bipolar disorder utilizing this comprehensive model, the clinician must be fully educated on the condition. Dense research into the long history of the disorder has been compiled into several well written books. Recommended are the writings of Francis Mark Mondimore, M.D., specifically the current edition of *Bipolar Disorder: A Guide for Patients and Families.* Additionally, David J. Milkowitz and Michael J. Gitlin's, *Clinicians Guide to Bipolar Disorder*; and also, highly informative is the current edition of David J. Milkowitz, PhD's writing of *The Bipolar Disorder Survival Guide: What You and Your Family Need to Know*. Due to the biological nature of bipolar disorder, and the regular emergent research into the brain and neuroscience findings, it is crucial that the clinician obtain the most current findings regarding the illness and evidence-based treatment for it. The clinician must have a thorough knowledge of the condition in order to effectively treat the individual with the diagnosis.

In regard to technology and applications to use with this model. As technology is ever advancing and changing, the best means of individual data collection will be relevant to the given time period of treatment. However, of the available sources of data collection at the time of practice, the clinician should have several options of tools (i.e. smartphone

applications, fitness trackers, partial paper charting, etc.) that they are familiar with and can recommend. The key features and the data collected by the tools are more important to the clinician than the tool itself. The data important to the model can be collected, if necessary, at its most basic, in a paper mood chart diary. Gathering the individual's unique data to establish the nuanced patterns relevant to that person, is the primary objective. However, the clinician chooses to work with the individual in regularly obtaining the data is subjective. Although, modern technological tools make charting and identifying trends much easier, and without such information long term treatment is likely to be less effective.

This model will serve to first educate the client about bipolar disorder through comprehensive psychoeducational information, and to enable the client to understand and recognize the unique presentation of bipolar illness in their lives. Various aspects of the psychoeducation may include, at therapist discretion, videos and or literature appropriate to the client's needs. The model will incorporate data collection (inventorying, charting, and tracking) through telepsychology mediums to inform the unique presentation of illness for each client.

Informed consent and privacy will be clearly established at start of treatment. Potential communication with prescribing clinician or support persons, the exchange of web-based client data, and safety protocols, will be included. Face-to-face and telepsychology sessions (video chat, telephone, text) will be utilized.

The model does not have a specific timeframe or a set number of sessions. The model encourages long-term treatment in alignment with the lifelong nature of bipolar illness. The clinician subjectively decides on the frequency of sessions based on the unique

factors that impact the client. The goal is to offer enough information and assist in relieving bipolar disorder illness related distress, to minimize early attrition.

Introduction to the Model

This model serves as a guide for psychotherapists treating individuals diagnosed with bipolar disorder. This model is intended to be a guide for ensuring that treatment is comprehensive and designed to aid in long-term client holistic stability. The goals of the Model are to increase and develop client insight, awareness, self-empowerment, quality of life, consistency, and hope.

Much of the model is geared toward psychoeducation, however, it is not intended to teach the clinician the concepts or subject matter referenced, rather, it is simply a guide that requires the clinician obtain the sufficient understanding regarding each subject area.

The model is divided into three Domains, and within each Domain are specific Modules to be utilized in treating the client with bipolar disorder. The primary component to this model is the Overarching Standard, which utilizes technology to collect data and determine patterns unique to the individual client. This customized approach ensures that treatment is tailored to the client's unique needs as it relates to their bipolar illness and long-term mental health stability.

The model requires the Primary Overarching Standard, and the application of the three Domains. However, not every module will be necessary for every client, and so modules are utilized, as necessary. On the same note, modules can be utilized in any order that the clinician deems ideal for the client being served.

The Model recognizes that both the scientific understanding of bipolar disorder physiology and technological advancements, are fluid and developing. This is why the

Model serves only as a guide, accommodating for emergent treatments to be utilized as needed, to maximize ideal outcomes.

Core Elements - Bipolar Individualized Balance (BIB)

Model of psychotherapeutic treatment for Bipolar Disorder utilizing telepsychology

Table 1 - Model Organization

Primary Overarching Standard	Domains	Modules
COMPONENT 1 Data collection for customized individual treatment (apps, devices, etc.) **COMPONENT 2** Telepsychology sessions for treatment consistency and continuity	**RX** Physiology and Medication	**1** Bipolar Disorder basics-illness presentation (onset - progression) **2** Etiology – Origins **3** Medication and Treatment types **4** How to be a smart patient
	SELF Individual personalized treatment factors	**5** Self-Stigma and Diagnosis Acceptance **6** Regular Assessment of Personal Data **7** Brain and Mind Balance **8** Medication and Self Advocacy
	OTHERS Interpersonal factors	**9** Supportive Relationships **10** Client Patterns in Relation to Others

Primary Overarching Standard - Technology

The use of technology is the primary and foundational standard to the BIB model, it consists of two components; data collection for customized individual treatment, utilizing apps, devices, etc.; and telepsychology sessions for consistency and continuity.

Data Collection

The first component is a means of establishing key personal patterns and idiosyncratic nuances for each client and will utilize technological advancements that allow the clinician and client to collect data and tailor treatment to the individual and their needs.

This first component of the model's primary standard is utilization of the most effective technological means possible for collecting and obtain a client's unique relevant data. Researchers have found significant benefits in using digital mood tracking applications for individuals with bipolar disorder. Murnane, Cosely, and Chang et al. (2016), found that over sixty-three percent of participants reported self-monitoring in any capacity, i.e., paper charts, journals, or technological devices, was helpful to their overall mental health. However, eighty percent reported that technology could help them manage their bipolar disorder best. Digital tracking tools offer the greatest usability, requiring minimal effort, and enable consistency during the most unstable mood periods.

This model encourages specific collection of unique data using the latest effective technology possible for the individual. Technology is rapidly and ever-changing, the ideal data collection will be what is accessible, relevant, and realistically usable for the client. The goal of this component of the model is to obtain data that is relevant to the client that allows for the greatest understanding of the patterns that help to predict and manage mood changes. This may be obtained through worn devices, smartphone apps, or if necessary, can also be

obtained by the individual through diligent paper or digital charting of established factors (i.e. sleep, Rx, stress, mood, substances, missed work, interpersonal experiences, etc.).

Key Data Collection Factors

- MOOD/SX/COGNITIVE PSYCHOTIC ETC.
- SLEEP
- MEDICATION ADHERENCE
- WEIGHT
- EXERCISE
- DIET CHANGES
- MENSTURAL CYCLES
- STRESS
- WORK/SCHOOL
- INTERPERSONAL -social isolation/engagement
- LIBIDO
- FINANCES
- UNIQUE individual factors relevant to client's experience- i.e. caffeine intake, sexual behavior patterns, purchasing habits, calling/texting changes, etc.

Consistency and client desire for this level of care are crucial to success when using this model. The goal is life-long stability and quality of life for the client. By establishing the unique ways that their bipolar disorder diagnosis manifests and presents in their life, the client gains greater agency and self-efficacy toward personal goals and the quality of life they desire.

As technology advances, the types of self-monitoring, both passive monitoring of behavior via technology that does not require user input, or the self-reporting type of data collecting; both will likely continue to advance and fine tune to client needs and preferences.

Presently, smartphone features, applications, online websites, and wearable devices that can track sleep and physical activity are commonly used.

Treatment Continuity

The second component in the overarching standard for this model is the use of technology to maintain client treatment continuity. The nature of bipolar illness presents the potential for treatment discontinuity due to missed appointments or complete treatment drop-out. This is clearly detrimental to the individual diagnosed with a life-long chronic and serious mental illness. This model prioritizes in-person treatment sessions as the first order of care. However, with the understanding that instability and challenges to maintaining appointments are common in individuals, particularly those new to treatment or dealing with challenging symptoms, or when for any number of reasons the person is unable to make the session an alternate backup session medium is utilized to assist in treatment continuity. This can be a preestablished online video chat platform that is HIPAA compliant, or a telephone call session, or if necessary a text conversation session (text should be used sparingly and with pre-established privacy measures in place, such as passwords or codes to verify that the person on the other end of the text messaging is in fact the patient).

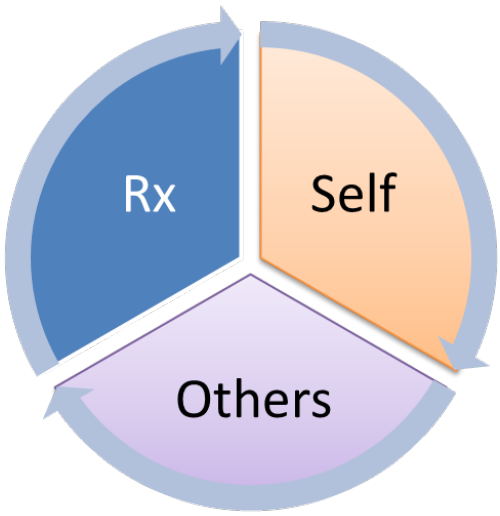
The desire to reach underserved populations, serve individuals with disabilities, those with specialized language or other needs, or simply convenience in scheduling has led to an increase in therapy services offered through a variety of technological modalities. This trend is called telepsychology or telemental health and is a branch of telemedicine. The types of technology most commonly used in telepsychology are phone, email, webcams, cellular mobile applications, webpages, or adaptive and assistive equipment (American Psychological Association [APA], 2018).

Psychotherapy delivered via various technological modalities offer a range of established advantages for the client. For example, the earlier mentioned scheduling flexibility, accessibility to services; as well as a solution to transportation challenges, childcare concerns, and perceived stigma of receiving mental health treatment are reasons clients appreciate telepsychology services (Bee, Lovell, Lidbetter, Easton, & Gask, 2010; Mohr et al., 2005). Psychotherapy utilizing cognitive behavioral therapy (CBT), delivered via telepsychology, was well received by clients in a 2008 meta-analysis. That study found a mean attrition rate of about 8% for telephone delivered psychotherapy for depression (Mohr et al.). Those findings were considerably lower than the 47% attrition rate found by an earlier study of traditional face-to-face CBT psychotherapy (Wierzbicki & Pekarik, 1993).

While the cited research indicates that a majority of clients surveyed approve of telepsychology, what about the clinicians? One of the primary challenges of telepsychology for the clinician, is less control of the therapeutic environment. This detour from the traditional face-to-face in-clinic session can lead to privacy issues (Haas, Benedict, & Kobos, 1996). Of greater importance is the challenge to the therapeutic alliance when using non-traditional psychotherapy modalities. The low attrition rates indicated in the research literature would suggest that perhaps in the case of CBT, some form of effective therapeutic alliance is being formed. However, the therapist utilizing telepsychology, needs to adjust much of their training and preconceived notions of a therapeutic relationship (Brenes, Ingram, & Danhauer, 2011). Without the client sitting in front of the therapist interpreting nonauditory cues can be especially challenging (Haas et al., 1996).

The BIB model allows for the clinician to not only utilize these non-face-to-face sessions for maintaining continuity of treatment and thwarting attrition, but also to

intentionally focus on a specific and module relevant to the client's present circumstances. Furthermore, the first data collection component of this overarching component, allows the clinician to have other means of assessing the client, when the face-to-face elements are missing.



The Three BIB Model Treatment Domains

Figure 1

DOMAIN 1- Physiology and Medication - Rx

This domain is somewhat introductory, and includes information that stands on its own, and is not dependent upon the data from the client's personal patterns.

Treatment Psychoeducation **Modules** for this Domain (no specific order necessary)

Module 1-Bipolar Disorder basics- illness presentation (lifetime)

Module 2-Etiology

Module 3-Medication and treatment types

Module 4-How to be a Smart patient

This is a psychotherapeutic model of treatment; however, this model recognizes the considerable physiological roots of bipolar disorder as evidenced in research literature. The professional standard of care and evidence-based practice in treating bipolar disorder is first through prescription medication. This model adheres to this standard of care and the expectation that to achieve true and long-term mental health the individual with bipolar disorder must work with a prescribing clinician to obtain the ideal medication treatment for their unique needs, as decided by the collaborative relationship between the individual and the prescribing clinician.

Module 1-Bipolar Basics - What is Bipolar Disorder?

Due to the prevalence of media and society to reference the term "bipolar" in the context of mental illness, and subsequently create a myriad of misinformation and misconception regarding the truth about bipolar disorder, an important component of treatment must include accurately teaching the facts of bipolar disorder.

Lifelong – Chronic illness

First and foremost, client's need to be educated to understand that their diagnosis is a life-long mood disorder. (If a client appears to struggle with the idea of needed treatment for life, the Module- Red Flags from the Self-Domain should be utilized to help the client's understanding of potential dangers due to insufficient treatment.) This is especially important for those client's that go through significant symptom free periods. Periods that the client perceives as symptom free can be deceptive due to the client's lack of insight (anosognosia) , which is common during bipolar episodes. (For more on anosognosia and impaired perception see the Module on Theory of Mind (ToM) in the Interpersonal – Others Domain).

Moods - Episodes

Clients should be informed about the ways in which bipolar disorder presents itself. This involves clarifying the difference between "normal" vs. "abnormal" moods. Helping the client to understand what is meant by "mood" is also important. Mood in relation to bipolar disorder involves more than just the way the client feels emotionally. Mood encompasses the client's overall holistic experience, including, emotions, cognitions, bodily experience, and perceptions. Bipolar disorder has clear mood types and while it is important that the client has a clear idea of what these are; this model seeks to focus on how the individual tends to present moods. As such, the unnecessary educating of a client to simply know bipolar mood types is not the goal ultimate goal of this model. However, a brief introduction *to mania, hypomania, depression, mixed states, rapid cycling, and psychosis*, should be reviewed. Just as a client's experience of each of the abnormal mood states, a client's subjective experience will also differ from that of another person as to what constitutes a "normal" mood.

Symptom development- Presentation

The border of each mood state is not usually clear, and treatment tends to find sufficiency in simply keeping an individual out of the extremes or more distressing depths of each mood, rather than fine tuning treatment to find a client's true normal. The ideal boundary that delineates healthy, sustainable, and desired quality of life for each person will vary. This is where the BIB model is most helpful in fine tuning a client's experience to their ideal outcome. For instance, it will be crucial for the clinician to help the client understand what each mood state looks like for them, rather than impose generalized and broad understandings. (The individualized understanding is developed in the Self-Domain

modules). An individual that has experienced clear and extreme manic episodes, once medicated and no longer in acute crisis may not be in a "normal" state, simply because they are not in either a depressed or manic state. Similarly, an individual who has lived in the extremes of their mood states for a long time, even most of their adult life, will find balance or what may be "normal" for them, to be mundane or boring. This situation should be clarified from feelings of "numbness" from overmedication, or a form of depressed mood.

This module's goal is to provide a general understanding of the types of mood presentations possible for the client with bipolar disorder. Explanations should specify the unique way in which the illness presents in different people. Customized awareness is most beneficial. Not everyone with bipolar disorder will experience non-symptomatic periods. Some individuals will have primarily mixed states, some will experience depression that then leads to mania, or mania that leads to depression. The main idea is that the client understands the full range of potential places their mood experience could go.

Moods on a gradient

Moods should be explained as a fluid process that tend to be expressed in a developmental gradient, for instance a mood will often begin with subtle changes in the client's experience and can either develop slowly or rapidly to a stronger changing more intense experience. The early symptoms experienced by a client before a full-blown mood episode are considered prodromal symptoms (Reddy, 2012). Helping a client understand to look for and begin recognizing their own prodromal symptoms will help in proactive treatment. Treatment is more effective when moods can be recognized in the subtle symptom range, before intense symptoms can lead to often dangerous and serious life implications, such as hospitalization or suicide.

Symptom Presentation

Each mood state should be explained from several symptom perspectives: *mood, cognitive, physical/bodily, and psychotic*. Explaining that moods manifest in one way, with subtle symptoms that then develop into stronger and more distorted experiences is important information for the client.

The clinician should understand the potential range of symptom presentations for each mood state and be aware that the client may have their own interpretations and idiosyncratic names for how they interpret and understand each mood as they have experienced it. For example, an individual may consider the times they have had a manic episode to be an alter ego or different part of self. Or they may have found a way to rationalize or make sense of the experience, such as, "it happened because I was exhausted."

The clinician will not only want to describe the various mood states, but also explain in understandable language and terms what each symptom can look like. For instance, when describing mania, it is important to note that not everyone will experience elated, euphoric, symptoms. The mood itself may be more dysphoric and irritable, with racing thoughts and little need for sleep for some clients. By discussing all potential aspects of a mood state, and

Figure 2. **Mania**: *Possible symptom presentation* (Mondimore, 2014).

Mood symptoms: elated, euphoric, grandiose, or irritable, angry, rageful, dysphoric.

Cognitive symptoms: feelings of heightened concentration, accelerated thinking (racing thoughts)

Bodily symptoms: increased energy, decreased need for sleep, erratic appetite, increased libido

Psychotic symptoms: Grandiose delusions, persecutory delusions, hallucinations

the various symptom experiences one may have, the client can identify how they personally experience each mood. The clients should be presented with possible symptom presentation for all mood states. Figure 2. highlights some potential symptoms present during mania.

Module 2- Etiology - Origins

This module seeks to help educate the client on the origins of their condition. This module may not be necessary for all clients. Receiving a bipolar disorder diagnosis can in many cases be a difficult thing to accept. Having an understanding as to how the person came to have this illness can be important for some clients to know. As with every module the importance of minimizing self-stigma and self-blame is very important. This may be especially true of individuals who have a history of substance abuse or other behaviors that they may believe caused them to have the condition.

The client should be aware that recognition of bipolar disorder dates to ancient times and yet science still has not found a clear picture of why some individuals develop bipolar disorder. However, explaining that genetic heritable links have been recognized as playing a significant part in why people develop bipolar disorder, is important to highlight. A client may want to process their family of origin and discuss where others may have also had mental illness.

The role of Stress

The diathesis stress hypothesis suggests that individuals that already have a biological or genetic predisposition to developing bipolar disorder can have these vulnerabilities triggered through stressful life experiences. This understanding can help clients recognize where their genetic makeup and life experiences came together and lead to their diagnosis.

Mind – Brain - Body

Helping clients understand the relationship between the mind, brain, and body can help in understanding why brain processes can cause behavioral consequences. This understanding can help minimize self-blame or shame, that can often contribute to further deleterious symptoms (for more on self-stigma see Module in Self-Domain). The mind brain relationship also helps the client appreciate the value of psychotherapeutic treatment for bipolar disorder. Some clients will appreciate basic brain structural and functional understanding.

The concept of "chemical imbalance" is often discussed when referring to mental illness. The clearer scientific explanation of brain cells- neurons communicating with each other through neurotransmitters, and the recognition that it is an abnormal functioning of this process that science believes contributes to the presentation of bipolar disorder may be helpful to some individuals.

Hormones and the effects of fluctuations on individuals with bipolar disorder should be reviewed when relevant, i.e. persons with thyroid conditions, or female clients that experience significant mood changes due to menstrual cycles.

Sleep and Circadian rhythm

Clients should be informed that sleep plays a foundational role in bipolar disorder. Circadian rhythms are like a 24-hour internal clock within our brains that regulate various bodily functions on a schedule and determines our sleep- wake cycles. Light has an impact on this system, such as when we wake up to the sun, and grow tired when it is dark at night. Research has shown that when our internal clock, our circadian rhythm, is out of sync without sleep-wake patterns our mood is affected negatively. This negative impact on mood

occurs in individuals not diagnosed with a mood disorder and has significant symptom effects on those diagnosed with bipolar disorder. (Mondimore, 2006). Nearly all individuals diagnosed with a mood disorder have disruptions in circadian rhythms and the sleep-wake cycle, this is why it is a primary criterion in diagnosing bipolar disorder (McClung, 2013).

Module 3- Treatment Types

The biological focus of this treatment model will first and foremost address the standard of care for bipolar disorder which starts with necessary medications. The journey to find the appropriate medication or combination of medications, and dosage can be an arduous and long one. A sufficient education regarding medication is needed to ensure adherence, is crucial to bipolar disorder proactive psychoeducation.

The better informed a client is on their personal history, for example knowing that a family member also diagnosed with bipolar disorder has had success with a specific medication will be beneficial information to share with the prescribing clinician. Also, individuals with specific illness presentations such as mixed moods will often have greater success on one medication over another. This is similar for those with extensive substance abuse history (Mondimore, 2006).

Types of Medication

The primary medications used to treat bipolar disorder at the present are mood-stabilizers, antipsychotics, and antidepressants. Again, this model is a guide for treating a client with bipolar disorder, and not a replacement for thorough clinician education on each topic. The important goals for this module include encouraging the client to be aware of the medications they are taking, the dosage, the length of time they have taken the medication at that dose, and the side-effects they experience. This module coincides with Module 5 in this

Domain, the client should learn to effectively self-advocate and communicate with their prescribing clinician.

The client should be encouraged to follow their prescribing clinicians' instructions. Helping the client to recognize what being undermedicated indicates for their symptom presentation, and equally what overmedicated feels like, and report to their prescribing clinician these experiences. The client's family and friends can also help to contribute understanding when the client may have trouble with clear insight regarding their symptom presentation. This will be addressed further in the Interpersonal- Others Domain. The psychotherapist can help the client work through problematic experiences that may have less to do with medication and more with personal experiences, although the client may be inclined to use the medication as a scapegoat. These issues will be addressed in the Self-Domain.

The research literature identifies that prescription medication is the standard of care and first order of best practice treatment for bipolar disorder. The research also shows that medication adherence is a major problem in those with a bipolar diagnosis. The best means of assisting a client to adhere to medication treatment is through educating them about their condition in the most individualized manner possible. There are various pharmacological treatment categories that are used for bipolar disorder because a specific biological cause has yet to be identified, it can be challenging to determine which medication or combination of medications is ideal for each person. Research shows that it can take years of trial and error experiences with different medications before the ideal treatment is found. This process is especially stressful on the client and can make long-term treatment adherence more

challenging. The client should be encouraged toward a collaborative goal of finding their ideal treatment combination.

Emergent and non-Medication Treatments

Non-medication treatments should also be briefly reviewed with the client. These at present include electroconvulsive therapy (ECT), blue light blocking glasses, light therapy, Transcranial magnetic stimulation, vagal nerve stimulation, deep brain stimulation, and transcranial direct current stimulation (Henrickson, Skrede, Fasmer, et al., 2016; Mondimore, 2006).

Providing the client with information and understanding about how to navigate this part of treatment can help to minimize confusion and assist in quicker effective treatment outcomes. This information should involve explaining the types of treatment available. This includes pharmaceuticals, and alternative evidence-based brain stimulation approaches.

Module 4- Smart Patient

This module encourages assisting the client in ways they can better build a collaborative therapeutic relationship with their prescribing clinician. This involves helping the client to communicate their needs or concerns effectively. Understanding their rights and the role of the prescribing clinician. If a client is troubled by a medication's side-effects, teaching the client how to discuss this with their prescribing clinician will be invaluable. A client that feels empowered and in charge of their treatment will have a better chance of identifying the most effective treatment for themselves.

Keeping regular appointments with prescribing clinicians, refilling prescriptions in a timely manner, remembering to take medication, and taking medication as directed are some of the key aspects of this module. A client should be encouraged to find effective ways of

remembering appointments. This can be through calendars, daily planners, smart phone reminders, or requesting reminder phone calls from the provider. Requesting when possible that the client's pharmacy set up automatic refilling of prescriptions and reminder correspondence when medication is ready to pick-up is also helpful in ensuring mediation continuity and proper adherence. Daily pill organizers, routine injectables, and other means can also be utilized to ensure that client's do not unintentional miss taking their medication. Reminding clients to document when they have missed medication or have not taken medication as prescribed is important. This information is valuable data to help the client gain a better understanding of their unique symptom presentation and overall mood experience. Even if the client chooses not to disclose (although, it is highly recommended they do so) to their prescribing clinician the truth of how they are consuming or not, the medication; it is important that the client themselves know. This will be discussed further in the Self-Domain.

Physiology and the Body

The goal of this model is to assist the client in holistic balance. The tendency for individuals to seek out ways to achieve relief from distressing symptoms on their own, through self-medication can prove problematic to the ultimate goal for long-term balance. Alcohol and illicit drugs, dietary and herbal supplements, and even diet can impact the mood stability of a client with bipolar disorder. A thorough inventory of the client's consumption of these and other potential mood destabilizers, should be evaluated and discussed with the client, regarding the role they have on the client's stability and balance.

Rates of alcoholism and substance abuse have been found to be as high as 60 percent, in persons with bipolar disorder (Mondimore, 2014). The exact reason for this correlation is

not clear to researchers, however, the deleterious effects of alcohol and drugs on bipolar mood stability is also documented. Francis Mark Mondimore, MD (2014), explains that he recommends anyone with a bipolar diagnosis abstain from any intoxicating substance in any quantity. This is also the advice of this model. Research has found that nearly half of suicide victims that had a bipolar diagnosis, had also suffered from substance use (Henriksson, Aro, Marttunnen, et al.,1993). (This area of concern can be worked on more specifically based on individual needs and data results indicated in the Self-Domain.)

Clients should be informed of the impact that over-the-counter substances can have on their mood stability. Examples of substances that have been shown to have an effect on individuals with bipolar disorder include St. Johns Wort, ginseng, caffeine, etc. (Mondimore, 2014). Clients should be instructed to review all substances that they consume with their prescribing clinician to ensure that no complications or interactions may occur.

Summary of Domain

This Domain focuses on the introductory information necessary for the client with a bipolar disorder diagnosis. The information contained in the five modules of this domain are focused on established a foundation for proper medication adherence in the client. Proper medication adherence helps to ensure continuity of psychotherapeutic and overall treatment. The more the client has an awareness of their illness and the life-long nature of it, the goal is to develop a self-motivation within the client to seek holistic balance and long-term stability.

Domain 2 – Self

Individual Personalized Psychotherapeutic Focus

This domain utilizes the personalized data collected in the primary standard component of the model to customize treatment. This domain focuses on the “psych,” or

psychological portion of the biopsychosocial model. Psychological components of the model will address the unique characteristics of the client as a person. Their determined strengths and weaknesses, and areas identified by data and clinician as priority to begin working on. Therapy includes concurrent psychopharmacological treatment, and psychoeducation as it applies to the specific client and their needs. Therapy should be long-term and be ongoing. As to the clinician's preferred psychotherapeutic theoretical orientation style, this model is compatible with all forms of psychotherapy. The clinician must simply modify treatment to incorporate the model's primary Domains, as necessary for each client.

Psychotherapeutic **Modules** for Self- Domain (no specific order necessary)

Module 5- Self-Stigma and Initial Diagnosis Acceptance

Module 6- Regular Assessment of Personal Data

Module 7- Brain and Mind Balance

Module 8- Medication and Self-Advocacy

Module 5- Self-Stigma and Initial Diagnosis

Addressing self-stigma is an important area to cover in psychotherapy. First, for some client's just receiving a bipolar disorder diagnosis may be to work with the individual to accept the implications of diagnosis and the self-stigma of having a severe life-long mental illness. The clinician will have to navigate and seek to understand the ideal ways to address these needs based on the individual client and the presenting concerns.

Module 6 -Regular Assessment of Data

It is crucial for the clinician to assist the client in identifying through the collected individual data, what unique patterns emerge. For instance, how does various bipolar

symptoms present uniquely and impact this client? What changes in the client's experience internally, cognitively, interpersonally as the illness presents in its various ways? What is the client like when depressed, hypomanic, manic, in a mixed mood state, etc.? How are their thoughts, behavior, feelings, insight, coping, etc. different when not symptomatic? When do subsyndromal symptoms occur and how can they be identified to enable proactive strategies to prevent full blown episode presentations?

It is important to help a client recognize the need to observe, be aware, note, and document how they exist. Also, what factors change and why, in order to aid in the development of self-awareness. Areas to observe for patterns include:

Key Data Collection Factors (list taken from Primary Overarching Standard section)

1. *MOOD/SX/COGNITIVE PSYCHOTIC ETC.*
2. *SLEEP*
3. *MEDICATION ADHERENCE*
4. *WEIGHT*
5. *MENSTURAL CYCLES*
6. *STRESS*
7. *WORK/SCHOOL*
8. *INTERPERSONAL*
9. *FINANCES*
10. *UNIQUE individual factors- ie. sexual bx patterns, purchasing habits, calling/texting changes, etc.*

Research has shown that clients that are diligent in data collection regarding their symptoms and experience with bipolar disorder, become discouraged when treating clinicians failed to accept or value the client's unique self-tracked data, leaving clients feeling rejected, resentful, and impeded future tracking efforts (Murane, et al., 2016).

While the assessment of the client's data is important, how the clinician and client decide to review and evaluate the data, as well as how often, will be determined by the

clinician, and ideally a collaborative decision. The key objective is to identify the patterns in the client's unique illness presentation, in an effort to develop the client's self-awareness.

Clinician Documentation for Referencing

A thorough intake form that covers information from the various domains and modules in the BIB Model, can help to save considerable time and help direct how and to which modules in the BIB Model to begin working with a new client.

The clinician should note in a readily accessible client file or treatment plan, any major mood episodes, significant symptoms, and clear idiosyncratic patterns recognized. How the clinician chooses to note these observations is determined by the clinician. The notes should be clear enough and organized enough for the clinician to identify annual or seasonal patterns. Specifically, a key personality and illness characteristics unique to the individual should be noted in a **Red Flags** section of the client's treatment plan, that is readily accessible to the clinician. For instance, does the client or the client's loved ones report seasonal patterns when dysfunction has been noticed? An example of this might look like, a client saying,

- "It seems that every Halloween, I end up in a fight with my wife."
- "September is always a bad month for me."
- "I have never had a good Christmas."
- "I never make it to Easter service with my family."

These examples are especially important early in the therapy relationship before the clinician has an opportunity to see and identify these patterns firsthand. Preparation for these times are valuable and can minimize the client's overall negative experience.

Developing a Plan for Dealing with Red Flags

Due to the nature of bipolar illness, and the lack of insight that can accompany symptomatic episodes (Swartz & Swanson, 2014), helping the client develop a specific plan that identifies clear subjective markers to recognize to help identify Red Flags and subsequent protocols are valuable. Safety should be the highest priority in the Red Flag plan. Upon intake, a BIB therapist should assess the client's history of hospitalizations, suicide attempts, and potential for future incidents. A clear discussed safety plan should be addressed in the first session and subsequently at all relevant occurrences. Equally, any history of violence or criminal behavior should be assessed and the potential for future incidents accounted for. Limits to confidentiality should be addressed as early as possible, as well as written consent to discuss relevant and agreed upon information with support persons and the prescribing clinician.

Medication adjustments and increases may be necessary and discussing a plan early on when the client is well, will help to lessen the complications that can occur if one waits to address and formulate a plan when the individual is already symptomatic. An example of this may be, when the client calls out of work sick but is not in fact physically ill, and simply feels overwhelmed or unable to go in, the client has this as a Red Flag and has indicated that in the past this is evidence of a depressive episode. The client would have a clear protocol in place to contact their prescribing clinician or inform a loved one, of the potential mood change and need for additional support. Besides the primary goal of preserving safety of the client and the safety of others, assisting clients in maintaining their overall quality of life, with little interruption is also a priority. Devastating behavior due to illness symptoms, can

have lasting implications on an individual's financial, interpersonal, or professional areas of life.

Long Term Treatment

For the long term management of the client with bipolar disorder, once the client is stable, ego strength is well developed, allowing for the greatest degree of insight and proactive illness management, and if trustworthy loved ones are actively assisting monitor client's recovery, and client has mastery in all domain modules; only then should in person therapy sessions be spaced further apart and check-ins via telepsychology platforms can be utilized more exclusively. Red flag plans should be well established when future episodes do present and require acute care.

Module 7 - Brain and Mind

Top down and Bottom up processing

One of the most challenging aspects of working with an individual with bipolar disorder is that the boundary in which the brain as an organ, and the mind in all its unique personalized characteristics, is so hard to distinguish. Where does the neurochemical imbalance of the brain end and the mind and will of the individual begin? This is the question that fuels much of the self-stigma and social stigma surrounding bipolar disorder and other mental illnesses. Helping a client understand that when the brain as an organ does not function well, it is the mind that gets altered, can be helpful. Often it is the organ's physiological change (bottom up) that sets off the mind's attempt to compensate (top down).

Figure 2

Utilizing the analogy of an actual two plated balance scale (see figure 3) can help clients to grasp the need to effectively care for both brain/body (one side of the scale) and mind (the other side of the scale) to maintain overall mental health balance.

The client's influence over the bottom up, physiological, brain part of this equations is an important part of psychoeducation in this model. The client can influence this part through appropriate holistic self-care, such as good sleep habits, diet and exercise, stress management, avoidance of alcohol and substances, and above all medication adherence.

Each of these facets is a trove of material to address in therapy with the client as is needed. Some clients may need more assistance than others in understanding and establishing ideal holistic self-care.

Stress management is an especially important focus for therapy in this model, Life stressors were identified to be the most common cause of relapse (43.2% of relapses) (Hajda, Prasko, Latalova, et.al., 2016).

The top down component of treatment addresses the specific and unique schemas that the individual has developed, that will become highlighted and glaring at times of illness, and when defenses are weakened due to the top down, brain/body physiological nature of bipolar illness. The clients cognitive and emotional errors will become heightened during mood episodes and also during subsyndromal symptom breakthroughs, when symptoms do not meet criteria for a full symptom. It is good for the clinician to help identify these personal patterns also. Does the client become more easily offended, paranoid, angry, self-defeating, or other behaviors during episodes? Exploring the related thinking and feeling and the origins can assist in minimizing future episodes.

Module 8 - Medication and Self-advocacy

Having a clear and concise means of helping the client to organize and clarify their experience with the various medicines is invaluable to assisting in the individual's overall balance and long-term treatment for bipolar disorder. Documenting the medicine the client is on, and charting the experience the client is having with the medication will help to establish if a true reaction is occurring due to the medication or if it is another aspect of the client's experience (mood, personality, independent factors, etc.) is affecting their experience with the medication. A client may need to determine if various side-effects are worth the benefits specific medications afford them.

Empowerment

Self-empowerment and helping to establish a sense of agency is crucial for clients. The individual must believe they have a choice, and the freedom to take medication if they chose too. Reviewing past occurrences of not being properly medicated, or potential future complications, could prove beneficial in assisting a client to decide how to manage

medication decisions. Having a thorough knowledge of illness progression and the possibility of losing valuable insight to make good decisions should also be reviewed. Clients that do not feel empowered may have a more difficult time being honest with their prescribing clinician.

Clients should be encouraged to have honest and open discussions with their prescribing clinician. The goal should be for the client to feel that a collaborative relationship exists with the prescribing clinician for the client's greatest possible quality of life.

[taken from Rx – Domain] Reminding clients to document when they have missed medication or have not taken medication as prescribed is important. This information is valuable data to help the client gain a better understanding of their unique symptom presentation and overall mood experience. Even if the client chooses not to disclose (although, it is highly recommended they do so) to their prescribing clinician the truth of how they are consuming or not, the medication; it is important that the client themselves know.

Summary of Domain

This psychotherapeutic treatment domain is a guide for the clinician to ensure that necessary treatment aspects are addressed to enable balance and highest quality of life for the client with bipolar disorder. Modules include a focus on addressing self-stigma and the challenges of accepting one's diagnosis; a need for regular assessment of data gathered through various technological sources (addressed in the Primary Overarching Standard section of the model); also how the clinician will document important information and collaborate with the client in planning for emergencies (i.e. Red Flags); how the brain and

mind should be addressed in treatment; and how to ensure self-empowerment and self-advocacy in medication management.

Domain 3 – Others

Interpersonal Focus

This Domain contains two main objectives. First, is to identify and encourage healthy relationships to serve as support for the client. The second objective focuses on assisting the client to look specifically at how they interact with others and how these interactions change with the various presentations of their illness. This part of the domain utilizes the client's personal data patterns and subsequent psychotherapeutic needs in relation to their interpersonal experiences. These variations in interpersonal interacting can be valuable data markers to help the client recognize early mood shifts. These objectives work together to maximize treatment outcomes and assist in long-term quality of life for the individual.

Treatment **Modules** for Others - Domain (no specific order necessary)

Module 9- Supportive Relationships

Module 10- Client patterns in relation to others

Module 9 – Supportive Relationships

Having healthy supportive relationships is especially important for individuals with bipolar disorder. The client should be able to count at least one trustworthy individual to whom they can contact if in need. Need could be someone to discuss their experience with and aid in reality checking. A support person can also serve as a contact for Red Flag events

and serve to help guide client in preplanned protocols if the client becomes too symptomatic to act in ways they would like to be behaving.

Identify and Strengthen Support Persons

The first step in this process is to identify individuals that may already be functioning in this role in the client's life. This may be a romantic partner, family member, or close friend. If the client already has such a person, the goal is to lay out ways in which the person can be better informed of the client's needs. Helping the client with information and ideas to better educate their loved ones about their illness can be helpful in strengthening these supports.

For clients without clearly established support persons, but who are able to recognize caring people that may be interested in serving in this important role, these clients can consider discussing the role and its expectations. Expectations would include learning about bipolar disorder, particularly how the client presents symptoms, what proactive plans the client needs in in the case of Red Flag events or mood episodes, and how they can help the client as part of those plans.

This model first considers the clients that have relatively healthy interpersonal lives and seeks to cultivate those that already exist into ideal supports. In some cases, a client may choose to share access to collected data with their support individual/s. For example, a client may allow their spouse access to the data collection smartphone application used. This decision should be at the client's discretion and for privacy purposes not promoted by the clinician. The model is designed to also work well with individuals that do not have healthy or established supportive interpersonal relationships. The model's focus on data collection creates greater client independence, self-awareness, insight into symptoms, and proactive

steps to minimize major illness disruptions. The therapist's relationship to the client can include protocols for serving in a more supportive capacity, such as including in the Red Flags plan the role of the therapist. The ultimate goal of the model is to enable the client to be the strongest possible self-advocate through greater understanding of themselves with clear data to assist in this endeavor.

This module allows for the clinician to establish, explore, and treat any individual interpersonal needs that present uniquely to the individual in the normal treatment approach preferred by the clinician. Examples of such needs may include individual attachment styles, personality characteristics, dependency patterns, cultural factors, and any other variable unique to the relevant client.

Module 10 – Client in Relation to Others

In this module the focus is on how the client interacts and perceives others in general. Regardless of the degree to which the client has interactions with others; some will have regular consistent contact with others in society and some clients will have very little, however, it is likely that with mood changes and bipolar symptom changes these interactions will alter from the client's norm. The use of data collection is beneficial to this module in that the client can learn to trust the data when their feelings become less stable and reliable.

Understanding how the client's individual data patterns may help them with reality testing and gauging where their mood is at, begins with recognizing that the insidious indications of an upcoming mood are often subsyndromal. If a client can be trained to recognize, when insight is still intact, these early indicators of the onset of a mood episode, the client can respond in a proactive manner to subvert a full-blown episode. What these interpersonal changes may look like in the data collected, is a change in time spent on the

phone, texting, skipping regular social events, or doing more socializing than normal. Patterns of conflicts with loved ones may coincide with mood episodes and offer Red Flag clues to loved ones. Changes in the people a client interacts with may also be indicative of bipolar symptomology.

For example, a client in the early stages of a manic episode may seek out people that are likely to keep pace with the energy and behavior that come with manic symptoms. In another example, a client may identify that preceding the onset of a depressive episode they find themselves sensing that their loved ones are angry, disappointed, or avoiding them; this leads to a pattern of the client confronting and questioning these loved ones, in an attempt to resolve this internal nagging distress. The client may find that the loved ones' responses are unable to quell the internal distress and they isolate.

The clinician can use the relevant data and recognized patterns identified with others to help foster greater self-awareness and insight for the client. These patterns allow for psychoeducation on the impairment of Theory of Mind, or the ability to accurately understand the thinking of others, during bipolar illness episodes and even subsyndromal periods. Helping the client to navigate the delicate balance of assessing facts along with their feelings is also a key lesson for this module.

Stigma is a necessary subject to address with clients. How the client understands others and society as a whole to perceive individuals with serious mental illness, is an important area to process in therapy. Clients may report fears that all their behavior is scrutinized as being potentially related to their diagnosis. Researchers Hajda, Prasko, Latalova, et.al. (2016), have identified that stigmatization itself usually takes the form of interpersonal coldness or distance toward the client. This distancing is often realized in close

intimate relationships (spouse, family, and friends) and job relationships. How a client should address this real or perceived stigma is an important area to practice and prepare for in therapy. Support groups, family therapy, and/or providing loved ones with reading material on bipolar disorder could prove beneficial. Helping the client to accept what can be done and what cannot be is important. Ensuring a client that the healthier and more empowered they are, the greater ability they will have to appropriately assert themselves and manage challenging interpersonal situations.

Summary of Domain

This domain focuses on how a clinician can utilize a client's interpersonal relationships, patterns, and experiences to help guide their psychotherapeutic treatment. Modules include a focus on developing new or established supportive relationships in the client's life as well as identifying how data gathered contributes to proactive intervention and insight. The data highlights the client's unique social and interpersonal patterns, allowing for greater understanding of early indicators of mood changes and symptoms.

Summary of BIB Model

The BIB Model is a psychotherapeutic guide for the treatment of bipolar disorder. The model utilizes a client's individual patterns, identified through daily tracking of specific factors such as mood characteristics, behaviors, and interactions with others. These factors are used to customize and address psychotherapeutic treatment in a customized and comprehensive manner. The model endeavors to increase and develop client insight, awareness, self-empowerment, quality of life, consistency, and hope. The BIB Model has a Primary Overarching Standard, three Domains, and ten treatment Modules. The Primary Overarching Standard focuses on utilizing technology to collect individual daily client data

and maintain treatment continuity. The three Domains and corresponding ten Modules, focus on the physiological aspects of treatment, including medication; the specific treatment factors unique to the client's experience, from both life and illness presentation; and lastly the relationships the client has with others, and how these relationships can support and inform better outcomes in treatment.

Clinical Model Application

A clinician begins by reviewing the model's Primary Overarching Standard and the two Components that make up that section. Then the three Domains; Rx, SELF, and OTHERS with all accompanying 10 total Modules should be reviewed also, before beginning treatment using the BIB Model. The clinician would benefit from creating an intake form to be filled out by new clients or used as a semi-structured intake interview. The necessary starting elements of the model are the Primary Overarching Standard, and Module 6, from Domain 2 -Self: Regular Assessment of Data. All remaining domain modules should be evaluated by individual client needs, as determined by the clinician.

Clinical Vignette

Client Information:

Mr. Vignette is a married, 32-year-old, Caucasian male, diagnosed with bipolar I disorder by his current psychiatrist 7 years ago. Mr. Vignette has been working with BIB Model Therapist for 2 years to assist in maintaining the client's overall mental stability and goal of ideal overall quality of life, . Mr. Vignette is employed full-time in construction management. He has been married for 10 years and has 2 elementary school aged children.

Prepared Intake and Documentation:

The BIB Therapist begins with a premade thorough New Client intake form that addresses key areas from the BIB Model modules. The therapist reviews the information to quickly assess the new client's treatment history and current understanding of bipolar disorder.

Informed Consent

The BIB Therapist reviews the new client's past safety concerns and discusses the limits of Confidentiality as they apply to the new client. Mr. Vignette consents to allow BIB Therapist to discuss relevant information with his psychiatrist. Therapist explains that a discussion with Mr. Vignette will occur first, when possible, before correspondence with psychiatrist takes place. The reasons for potential communications should be clearly laid out in a collaborative Red Flags plan.

Primary Overarching Standard

The client has a cellular smartphone that is used for all of his data collection and management. The client and therapist have collaborated to utilize telehealth video conferencing and text messaging to maintain treatment continuity.

The client has the smartphone application eMoods™ downloaded on his cell phone. This app allows him to keep track of his daily mood and energy highs and lows, sleep, medications, and other symptoms related to his mental health. Specifically, Mr. Vignette's list of tracked information include:

1. Sleep (hours per night)
2. Weight (lbs)

All the following Data indicated in 4 point Likert Scale- (*None, Mild, Moderate, Severe*)

3. Daily Most Depressed mood
4. Daily Most Elevated mood
5. Daily Most Extreme irritability
6. Daily Most Extreme anxiety
7. Sensitivity to interpersonal offenses
8. Cognitive challenges (see notes for specifics)
9. Daily Caffeine Consumption
10. Daily Sugar Consumption
11. Television watching Bx
12. Time with spent with children
13. Adherence to regular daily schedule

All the following Data indicated as Yes or No

14. Psychotic symptoms
15. Substance or Alcohol use
16. Talked on phone with family
17. Sex
18. Shopping
19. Exercise
20. Prayer
21. Digestive problems
22. Physical Pain
23. Missed/Cancelled appointments
24. Missed medications

Mr. Vignette additionally uses the notes section of the app, to document significant occurrences or events as an "as-needed" mood diary. As significant happenings take place or become relevant throughout the day, he makes note of them in his app by simply clicking the specific item from the list. At the end of the day it takes him less than 10 minutes to go through the remaining items and answer each one. His wife and therapist receive automatic monthly reports sent directly from the app.

The second component of the Primary Overarching Standard is the use of telehealth mediums to maintain psychotherapeutic continuity. Mr. Vignette and BIB Therapist have arranged that the client will purpose to attend the in-person weekly therapy session at the therapist's office. However, if this is not possible for any reason Mr. Vignette will text the therapist and a video conference session will be used. During a depressive episode, Mr. Vignette had 3 video online sessions over the course of 3 weeks.

Domains of BIB Model Treatment

RX – Physiology and Medication

Rx-Module 1-Bipolar Disorder basics- illness presentation (onset through progression)

Mr. Vignette had a fairly good understanding of his diagnosis when he began receiving psychotherapy, from reading various books and 5 years with a minimum of monthly appointments with his psychiatrist. However, at the onset of therapy BIB Therapist asked Mr. Vignette to review his understanding of bipolar disorder and his specific diagnosis. Specifically, they discussed the ways in which Mr. Vignette's illness presents. Mr. Vignette explained the onset of his illness as occurring when he was 25 years old. This experience included a weeklong hypomanic episode that developed into a 10-day manic episode. During that episode, he had frivolously spent the majority of his savings, and caused significant

damage to his marriage. It was during the depressive episode that followed this initial manic episode that he received the diagnosis of bipolar I. Mr. Vignette had been able to identify his unique illness presentation over the years as a pattern of mania followed by depression. Since being in treatment using the BIB Model, this pattern was able to be confirmed with the collected data. A discussion regarding what each episode looks like for Mr. Vignette was covered early on in therapy. For instance, he has very brief euphoric hypomanic symptoms before becoming irritable and agitated and often angry during mania. During depression, he isolates and experiences anhedonia.

Rx-Module 2-Etiology

Mr. Vignette and BIB Therapist briefly discussed his understanding of the origins of his diagnosis in his first session, with similar topics reviewed at times in various other sessions over the course of his psychotherapy. Mr. Vignette expressed an understanding of how both stress and poor sleep influence his initial illness onset. Moreover, after conversing with his family, he learned that his maternal aunt, and grandfather were both diagnosed with manic depressive illness in their 20's also.

Rx-Module 3-Medication and treatment types

For this medication related module, the clinician had Mr. Vignette fill out the prescription medication he was taking in his intake forms, and a history of his prescriptions with any experienced side-effects. During the initial session Mr. Vignette had expressed the challenges he experienced in the first few years of his prescription medication treatment, most notably his experience with distressing side-effects. After a year of treatment with BIB Therapist, Mr. Vignette had a medication change. During this period the client and therapist were diligent in reviewing the data collected on a weekly basis to assist in determining the

effectiveness of the medication and dosage. Data indicated that after two weeks, Mr. Vignette was experiencing subsyndromal irritability. When the client shared this information with his prescribing clinician the dosage was adjusted, and the distressing symptoms subsided.

Additionally, intake forms addressed the client's alcohol and substance use history. Mr. Vignette expressed difficulty abstaining from alcohol use during the year following his diagnosis, however, after several distressing binge drinking episodes and the marital distress it caused, he had decided to abstain from drinking alcohol. His periodic desire to drink alcohol is discussed in his sessions as those times present. The effects of caffeine on his symptoms became evident throughout his therapy and collaboratively client and therapist decided to add caffeine intake to the list of tracked information in his plan.

Rx-Module 4-How to be a Smart patient

Mr. Vignette expressed difficulty remembering to take his medication at the recommended times. In session a variety of ideas to remedy this were brainstormed and using his smartphone's reminder alarms was the solution that helped to resolve this challenge. To further address this module of the BIB Model the therapist inquired, early on in therapy, and made periodic check-ins to see how Mr. Vignette was getting along with his psychiatrist. Several opportunities presented in session where the BIB Therapist was able to explore concerns the client had, and ways Mr. Vignette could better communicate with his psychiatrist.

Self – Domain

Module 5- Self-Stigma and Initial Diagnosis Acceptance

For this module, the BIB therapist was able to get a good feel in the first few sessions for how Mr. Vignette accepted and processed his bipolar diagnosis. Having a clear understanding of the heritable and biological nature of his diagnosis, staying informed about the details of his illness, and recognizing how to best manage his symptoms helped Mr. Vignette feel more empowered and able to influence the outcomes in his life. However, the therapist made a point to listen for and recognize subtle fears and concerns that Mr. Vignette had regarding his self-worth and self-efficacy at times when his illness symptoms were more present and creating conflict in his life.

Module 6- Regular Assessment of Personal Data

Collaboratively, Mr. Vignette and the BIB Therapist decided to review his collected data on a routine monthly basis, and also whenever notable occurrences presented. Analyzing his personalized data, he and his therapist were able to identify early indicators of a potential manic episode, such as more frequent phone conversations with family on the mainland and a tendency to become easily offended by others. Furthermore, his data showed that clear markers of difficulty with memory and concentration, and digestive problems would indicate early onset of a depressive episode. As variables became relevant, client and therapist would discuss adding that to the information to be tracked. For example, his earlier mentioned caffeine use.

The BIB Therapist working with Mr. Vignette used a self-created intake form that asked pertinent questions from all ten BIB Model modules. This intake form was filled out by Mr. Vignette prior to his first session and then reviewed by the BIB Therapist and used as a guide for directing treatment to necessary modules. The Therapist could have used the intake form as a semi-structured interview for the first session also.

The Red Flag plan for Mr. Vignette first assessed safety concerns. Mr. Vignette had no history of suicide attempts, but he did describe significant suicidal ideation during his first depressive episode. Mr. Vignette identified his Christian faith, his wife and children, and close extended family as protective factors. A plan was created for the client to alert the BIB Therapist, prescribing clinician, and Mr. Vignette's wife, if identified risk factors within his data list indicate that safety is a problem. Mr. Vignette had no prior criminal or history of violence. However, he recognized that his anger, during more elevated moods, had created problems in his relationships with his wife and children in the past. To address this concern, Mr. Vignette explained that his prescribing clinician instructed him to increase one of his medications, on an as needed basis, when his irritability and mood become elevated and a risk of irrational anger may occur.

An intentional review of Mr. Vignette's data on a monthly basis, in his session with BIB Therapist, has helped to identify seasonal mood patterns. At the change of seasons, in the Fall and in the Spring, when daylight hours change, it was recognized that a shift in Mr. Vignette's mood would take place. This pattern and the role of circadian rhythms in the presentation of bipolar symptoms was discussed in session, as part of the Module 2 psychoeducation. This information further allowed the client and therapist to plan for Mr. Vignette to discuss his increased sensitivity with his wife, identify coping strategies to use, and inform his psychiatrist who could also adjust his medication to allow for a more balanced seasonal transition.

Module 7- Brain and Mind Balance

Mr. Vignette has been working on identifying and adjusting various aspects of his understanding of himself, and how he perceives his experiences. He has been able to recognize

that his bipolar disorder can make whatever understanding is present and established, more intense or amplified. By remaining open and exploring in therapy his various schemas and how to have healthier thinking, feeling, and experiencing even during times in which his illness increases the intensity of his world, he is a better healthier version of himself to aid in lessening the negative outcomes of the bipolar disorder's influence. For instance, by recognizing through his psychotherapeutic work with his BIB Therapist, his core negative belief of, "I'm a failure" and the early life experiences that shaped this belief, as well as the way in which he responds when this belief is triggered has helped him to become more self-aware. Processing his past and reframing his present has helped him find overall greater inner peace. The overall greater sense of self-awareness that he works on in psychotherapy has also assisted in his ability to better identify whether or not his internal experiencing is due to a physiological influence (poor sleep, mood symptoms, hunger, etc.) or a dysfunctional emotional or cognitive schema.

Module 8- Medication and Self-Advocacy

Through his work in psychotherapy with his BIB Model Therapist, Mr. Vignette has become more comfortable discussing his thoughts regarding his medication with his psychiatrist. Early on, he explained that he thought he was just supposed to do what the psychiatrist told him to and not question or complain. He has realized that in asking questions, sharing the data he tracks and discussing his medication experience in greater detail with his psychiatrist, he has had more satisfying and successful treatment outcomes in that clinical relationship also.

Domain – Others

Others-Module 9- Supportive Relationships

Mr. Vignette presented initially with fairly well established and supportive relationships. Specifically, his wife and parents, each whom had clearly expressed a desire to support him in his mental health treatment. He reported having two close friends that he considered dependable supports, but who did not know a lot about bipolar disorder. The BIB Therapist worked with Mr. Vignette first to identify ways to build and strengthen his relationship with his wife as a support in his treatment. This was primarily how to establish what were realistic and unrealistic expectations for her in this capacity. Much of the focus involved how Mr. Vignette could communicate more clearly his needs at any given moment, and help his wife understand what he was experiencing so that she could make the wisest and healthiest decisions for herself and the children at those times. For example, when Mr. Vignette realized that he should probably minimize his activities over the weekend and focus on rest. He had to cancel his prescheduled all-day beach outing with his wife and children. Rather than just telling his wife that he was no longer going with them, he kindly explained that due to having had an extra stressful week at work, and several nights of poor sleep, he was concerned that pushing himself would result in negative mood repercussions. His wife understood and agreed with his concern and encouraged Mr. Vignette to rest and relax. This thwarted potential conflict not only assisted in maintain harmony in the client's marriage, but also assisted in restoring Mr. Vignette's mental health balance because he could regroup physically and mentally from a tough week, but he could experience the interpersonal support of his wife in this much needed endeavor.

Others- Module 10- Client patterns in relation to others

In this module Mr. Vignette's individualized patterns in his interactions with others helped to inform him and the BIB Therapist regarding his mood and symptoms. When it became evident that as his mood elevated toward hypomania, Mr. Vignette would begin calling his family on the mainland and having longer telephone conversations; the client and BIB Therapist decided that adding this variable into his list of tracked behavior would be a helpful indicator. The data eventually helped the client and therapist to recognize that when Mr. Vignette's telephone conversations increased with anyone, it was likely a marker of mood elevation.

Furthermore, Mr. Vignette would report feeling offended more readily during the onset of agitated manic mood episodes. This variable was also added to his list of tracked data. It became clear by looking at the data, that Mr. Vignette almost never experienced feelings of offense in his interactions with others during symptom free times. This was a very helpful insight in assisting the client to increase his "as needed" medication when he became offended on more than one occasion in a short span of time.

Conclusion

Mr. Vignette and BIB Model Therapist continue to meet weekly in-person and via telehealth mediums, as needed. The BIB Model has allowed Mr. Vignette greater understanding about himself and how his bipolar disorder symptoms present and affect various aspects of his life, including physically, mentally, emotionally, and interpersonally. Through greater understanding, and increased communication with his psychiatrist, he has no difficulty with medication adherence. Having customized information regarding how his illness uniquely presents in his life, aids Mr. Vignette in maintaining mood stability and

overall mental balance, this contributes to his goal of working toward the highest quality of life possible living with a lifelong bipolar disorder diagnosis.

Strengths and Limitations of the Model

Strengths of the BIB Model

The BIB Model offers strengths from both the clinician's perspective and the client's perspective.

Clinicians using the BIB Model are able to adapt their current theoretical orientation and psychotherapeutic treatment approach to the model. The model allows for working with individuals at any stage in their bipolar disorder experience, initial diagnosis, or years of treatment experience. The model provides a flexible but comprehensive guide that can assist clinicians that had not previously worked with bipolar clients, to broaden their client base. The model is designed to allow for long term treatment as is needed with this client population. The customized tracking of a client's individual data allows for clarification of a client's needs and assists in guiding treatment objectives and goals. The model is designed to enhance client and therapist collaboration and can contribute to strengthening therapeutic alliance.

Individuals diagnosed with bipolar disorder benefit from the BIB Model's focus on tracking the unique ways in which bipolar disorder presents in their life, this accounts for a range of cultural and diversity factors. The combination of tracking their experiences and having that data collaboratively shared with a competent mental health clinician that can help them to process and utilize the information for better outcomes is a considerable strength of

the model. Having a greater understanding of themselves, their diagnosis, how their diagnosis impacts and presents itself uniquely in that client's life aids in self-empowerment, insight, agency, and hope for the healthiest and highest quality of life.

Limitations of the BIB Model

The model also has limitations from both the clinician and client perspectives. The model serves as a broad guide for a clinician. The model does not educate the clinician about bipolar disorder, it simply organizes the areas of necessary psychotherapeutic treatment. A clinician must already have or develop a thorough knowledge of bipolar disorder. Additionally, working with clients diagnosed with bipolar disorder requires additional safety considerations. Split care with a prescribing clinician means additional ethical measures be taken also. Moreover, the model requires that clients have a prescribing clinician and working with individuals that do not yet have a prescribing clinician could present additional challenges.

The literature review identified that bipolar disorder is often is accompanied by additional comorbid conditions. Substance use disorder is a common co-occurring diagnosis with bipolar disorder. The model does recognize the need to address substance use as a tracking factor and psychoeducation discussion point. However, this model does not address the treatment of psychiatric or medical comorbid diagnoses.

The model relies on the use of technological tools to assist in tracking client data, a clinician using the BIB Model would be required to have a reasonable understanding of the current data tracking tools available (i.e. smartphone features, online software applications,

etc.) Furthermore, the model uses telehealth mediums and would require that the clinician have access and competency in practicing through telehealth. The model necessitates that the clinician create, maintain, and organize documentation for each client. This step could prove challenging for clinicians that would prefer predesigned forms, rather than having to design their own. Finally, because the model is designed to work with a client on a long-term basis, in accord with the chronic nature of bipolar disorder, clients with limited session restrictions may not be ideal for this model.

Clients unable to use or access technological tools may find the daily tracking requirements of the model too challenging and be unable to engage in specific telehealth sessions. This relevant diversity factor could limit use of the treatment model with individuals of lower socioeconomic status, older clients, and those with limited cognitive abilities.

The model is designed to be a long term, regular, and collaborative form of therapy, and clients with various forms of lifestyle instability (i.e. homelessness, etc.) will be challenged to maintain the model's necessary treatment requirements. Lastly, the model is a psychotherapeutic guide that requires the client have a prescribing clinician, establishing this additional professional relationship is the responsibility of the client, and could prove problematic.

Ethical Considerations

The BIB Model requires special ethical consideration in the area of informed consent. Specifically, clients being treated with the BIB Model should be informed, as early as

possible, regarding the limits of confidentiality and the risks of various telehealth electronic transmissions to privacy. If collaboratively agreed upon outside parties (i.e. spouse, psychiatrist, etc.) will be part the client's treatment and emergency plans, the client should sign all necessary consent forms as required by legal and ethical standards where treatment is taking place.

Summary of Chapter III

Chapter three of this research project addressed the Rationale, Theoretical Foundations, and Core assumptions of the BIB Model. The goal of this model was to create a psychotherapeutic treatment guide that would enable a clinician treating an individual with bipolar disorder, to ensure comprehensive, consistent, and efficacious treatment outcomes. Effective treatment of bipolar disorder requires combined psychopharmacological and psychotherapeutic intervention. A number of factors identified in the research literature contribute to complications integrating both necessary treatment components. High attrition rates and medication non-adherence have far reaching negative effects for bipolar clients. Improper treatment can lead to distressing symptoms, strained or damaged personal lives and interpersonal relationships, legal troubles, and death.

Recognized in the literature review was a need for psychotherapeutic model that effectively integrated the discordant bipolar treatment components. In response to the recognized treatment niche, the Bipolar Individualized Balance (BIB) Model was designed. The model serves as a guide for treating psychotherapists, and accounts for the key necessary intervention factors identified in the literature review as essential to long-term successful bipolar disorder treatment. Relying on the relevant and unique biological, psychological, and

social factors using a biopsychosocial theoretical frame to organize treatment, and technology to assist in customizing and maintaining treatment continuity, the model endeavors to assist in long-term treatment success. The BIB Model is organized into a two-part primary overarching technology component, 3 broad treatment domains, and 10 specific treatment modules.

A vignette was presented to exhibit the model's clinical use, and highlighted the collaborative psychotherapeutic experience aimed at increasing client self-empowerment, self-awareness, insight, agency, and hope. The model has strengths and limitations from the perspective of both the clinician and the client, and the specialized ethical considerations are also reviewed in chapter three.

CHAPTER IV

DISCUSSION

Discussion of Findings as they relate to original questions

This research project sought to address several main questions including, what is bipolar illness and how is it effectively treated?; what are the reasons why individuals diagnosed with bipolar disorder are not adhering to the medications they are prescribed?; What variables/factors contribute to medication adherence?; what psychotherapeutic interventions are effective in treating bipolar disorder?; How can telemental health supplement traditional psychotherapeutic interventions for bipolar disorder and ameliorate attrition and/or treatment noncompliance? And lastly, what elements are necessary to design a holistic long-term psychotherapeutic treatment model for bipolar disorder.

The extensive literature review identified substantial research to support the reasoning that bipolar illness is a biologically based illness that is shaped by an individual's unique psychosocial experiences into individualized symptom presentation. First order standard of care treatment for bipolar disorder is psychopharmacological intervention with corresponding psychotherapeutic care. Research literature identified medication adherence as a primary problem in successful treatment of individuals with bipolar disorder. Ineffective medication adherence is linked to poor psychotherapeutic treatment and overall long-term prognosis. Interventions aimed at psychoeducation and increased client self-awareness were recognized as key treatment foci to ensure better medication adherence. However, the present treatment dilemma requires medication stabilization in order for an individual with bipolar disorder to effectively engage in and remain committed to psychotherapy. Present psychotherapies are

only considered empirically supported treatment, and they are not comprehensive, only addressing separate aspects of a person's life. The effort to integrate the discordant interventions necessary for effective, comprehensive, long-term bipolar disorder treatment, was the aim of this research project. The advent of technological tools capable of easily collecting, organizing, and even charting an individual's unique experiential data, coupled with telepsychology mediums, offered the adhesive to unite the presenting treatment predicament. The BIB Model, founded in a biopsychosocial framework, was the proposed resolution to assisting in providing comprehensive, individualized, consistent, and long-term treatment for bipolar disorder. The model's technological requirements can create limitations for both clients and clinicians, furthermore, the model is a guide and not a training manual for the treatment of bipolar disorder. The customized nature of the model accounts for a range of diversity and cultural factors to be incorporated.

Clinical Implications

At present a significant shortage in psychiatrists in the United States has led to substantial mental health treatment complications for many individuals with serious mental illness that require psychotropic medication to maintain mental wellness, including bipolar disorder (Harrar, 2020). Psychotherapy for bipolar disorder has been largely relegated to several limited manualized treatment approaches, each approach focusing on only part of the individual's experience (i.e. family, cognitive, etc.) This model identifies a niche in the present treatment of bipolar disorder and seeks to address and adequately fulfill the therapeutic need for a comprehensive model of treatment, that accounts for the unique variations in illness presentation. This model creates greater opportunity for more clinicians

to treat bipolar clients from a personalized rather than manualized perspective. The model allows for individuals with bipolar disorder to receive long-term, comprehensive, individualized psychotherapeutic treatment.

Recommendations for Future Research

Quantitative and qualitative research into applied use of the BIB Model could assist in determining its value as an empirically supported or evidence-based treatment model and help to inform future revisions of the model design.

The advancement of scientific research into the root causes and biological variations of bipolar disorder, and its differing symptom presentations, will likely lead to greater clarity in future psychopharmacological and psychotherapeutic treatment efficacy. Technological advancements will allow individualized data collection to be a more automatic and effortless, creating personalized treatment opportunities for individuals cognitively or otherwise unable to track data on their own.

Variations of the BIB model could be explored to be used for online and in-person group psychotherapy. Modified versions of the BIB Model could be adapted for other severe and persistent mental illnesses or psychiatric conditions (i.e. schizophrenia, schizoaffective disorder, borderline personality disorder, etc.)

Conclusion

In the second century A.D., Greeks first identified bipolar disorder. From that time until today, great thinkers of each time period sought to identify the root cause and effective treatment of its unique presentation.

Research literature recognizes the biopsychosocial nature of bipolar disorder. The most efficacious treatment is two-fold, requiring both psychopharmacological and psychotherapeutic interventions. Due to the present organization of the varying scientific fields that professionally manage these two needs, long-term treatment outcomes are problematic.

The BIB Model is a psychotherapeutic model that integrates the customized treatment needs of the individual with bipolar disorder to provide a fully comprehensive, flexible, therapy guide for psychotherapists. The treatment model is designed to utilize technology and telepsychology to maximize successful treatment outcomes in bipolar therapy, by assisting a client toward greater insight, awareness, self-empowerment, consistency, quality of life, and hope for long-term holistic wellness.

References

American Psychological Association. (2012, October). Myths and realities about bipolar disorder; Five questions for bipolar disorder expert Eric Youngstrom, PhD. Retrieved from https://www.apa.org/news/press/releases/2012/10/bipolar-disorder

American Psychological Association. (2018, October 5). What are telehealth and telepsychology? Retrieved from https://www.apa.org/pi/disability/resources/publications/telepsychology.aspx?tab=3

Arvilommi, P., Suominen, K., Mantere, O., Leppämäki, S., Valtonen, H., & Isometsä, E. (2014). Predictors of adherence to psychopharmacological and psychosocial treatment in bipolar I or II disorders - an 18-month prospective study. *Journal of Affective Disorders, 155*, 110-117.

Avery, S., Williams, L., Woolard, A., & Heckers, S. (2014). Relational memory and hippocampal function in psychotic bipolar disorder. *European Archives of Psychiatry & Clinical Neuroscience, 264*, 199-211.

Baldessarini, R.J., Perry, R., & Pike, J. (2008). Factors associated with treatment nonadherence among US bipolar disorder patients. *Human Psychopharmacology Clinical,23*, 95–105.

Baxter, L.R., Phelps, M.E., Mazziotta, J.C., Schwartz, J.M., Gerner, R.H., Selin, C.E., & Sumida, R.M. (1985). Cerebral metabolic rates for glucose in mood disorders studied with positron emission tomography (PET) and (F-18)-fluoro2-deoxglucose (FDG). *Archives of General Psychiatry, 42,* 441-447.

Bee, P. E, Lovell, K., Lidbetter, N., Easton, K., & Gask, L. (2010). You can't get anything perfect: User perspectives on the delivery of cognitive behavioural therapy by telephone. *Social Science & Medicine*, *71*, 1308-1315. doi:10.1016/j.socscimed.2010.06.031.

Belzeaux, R., Boyer, L., Mazzola-Pomietto, P., Michel, P., Correard, N., Aubin, V., . . . FACE-BD., &. (2015). Adherence to medication is associated with non-planning impulsivity in euthymic bipolar disorder patients. *Journal of Affective disorders, 184*, 60-66.

Bender, R., & Alloy, L. (2011). Life Stress and Kindling in Bipolar Disorder: Review of the Evidence and Integration with Emerging Biopsychosocial. *Clinical Psychology Review, 31*(3), 383–398.

Berk, M., Kapczinski, F., Andreazza, A.C., Dean, O.M., Giorlando, F., Maes, M., Yucel, M., Gama, C.S., Dodd, S., Dean, B., Magalhaes, P.V.S., Amminger, P., McGorry, P., & Malhi, G.S. (2011). Pathways underlying neuroprogression in bipolar disorder: focus on inflammation, oxidative stress and neurotrophic factors. *Neuroscience and Behavioral Reviews, 35,* 804–817.

Berns, G., & Nemeroff, C. (2003). The neurobiology of bipolar disorder. *American Journal of Medical Genetics Part C, 123*, 76-84.

Blixen, C., Perzynski, A.T., Bukach, A., Howland, M. & Sajatovic, M. (2016). Patients' perceptions of barriers to self-managing bipolar disorder: A qualitative study. *International Journal of Social Psychiatry, 62*(7) 635–644.

Bora, E., Bartholomeusz, C., & Pantelis, C. (2015). Meta-analysis of theory of mind (tom) impairment in bipolar disorder. *Psychological Medicine, 46*, 253-264.

Boss, P. (2002). Family stress management: A contextual approach. (2nd ed.). Thousand Oaks, CA: Sage Publications

Broadbent, E., Petrie, K.J., Main, J., & Weinman, J., (2006). The brief illness perception questionnaire. *Journal of Psychosomatic Research 60* (6), 631–637.

Buchsbaum, M., Someya, T., Wu, J., Tang, C., & Bunney, W. (1997). Neuroimaging bipolar illness with positron emission tomography and magnetic resonance imaging. *Psychiatric Annals, 27*, 480-495.

Buchsbaum, M.S., Wu, J., Delisi, L.E., Holcomb, H., Langston, K., & Post, R.M. (1986). Frontal cortex and basal ganglia metabolic rates assessed by positron emission tomography with F 2-deoxyglucose in affective illness. *Journal of Affective Disorders, 10,* 137-152.

Bhugra, D., & Flick, G.R. (2005). Pathways to care for patients with bipolar disorder. *Bipolar Disorders 7* (3), 236–245

Cascade, E.F., Reites, J., & Kalali, A.H. (2006). Antidepressants in bipolar disorder. *Psychiatry, 4*(3), 56-58.

Cao, B., Bauer, I., Sharma, A., Mwangi, B., Frazier, T., Lavagnino, L., . . . Soares, J. (2016). Reduced hippocampus volume and memory performance in bipolar disorder patients carrying the BDNF val66met met allele. *Journal of Affective Disorders, 198*, 198-205.

Cao, B., Passos, I., Mwangi, B., Bauer, I., Zunta-Soares, G., Kapczinski, F., & Soares, J. (2016). Hippocampal volume and verbal memory performance in late-stage bipolar disorder. *Journal of Psychiatric Research, 73*, 102-107.

Chaing, K., Tsai, J., Doresses, L., Lin, C., Chiu, H., & Chou, K. (2017). Efficacy of cognitive behavioral therapy in patients with bipolar disorder: a meta-analysis of randomized controlled trials. *PloS One, 12*(5), 1-19.

Clary, C., Dever, A., & Schweizer, E. (1992). Psychiatric inpatients' knowledge of medication at hospital discharge. *Hospital Community Psychiatry, 43*(2),140-144.

Clatworthy, J., Bowskill, R., Parham, R., Rank, T., Scott, J., & Horne, R., (2009). Understanding medication non-adherence in bipolar disorders using a Necessity-Concerns Framework. *Journal of Affective Disorders 116*, 51–55.

Colom, F., Vieta, E., Martinez-Aran, A., Reinares, M., Benabarre, A., & Gasto, C. (2000). Clinical factors associated with treatment noncompliance in euthymic bipolar patients. *Journal of Clinical Psychiatry, 61*, 549–555.

Colom, F., Vieta, E., Martinez-Aran, A., Reinares, M., Goikolea, J. M., Benabarre, A., et al. (2003). A randomized trial on the efficacy of group psychoeducation in the prophylaxis of recurrences in bipolar patients whose disease is in remission. *Archives of Gen Psychiatry, 60*, 402-407.

Connolly, K. R., & Thase, M. E. (2011). The clinical management of bipolar disorder: a review of evidence-based guidelines. *The primary care companion for CNS disorders*, *13*(4), PCC.10r01097. doi:10.4088/PCC.10r01097

Crowe, M., Wilson, L., & Inder, M. (2011). Patients' reports of the factors influencing medication adherence in bipolar disorder – An integrative review of the literature. International *Journal of Nursing Studies, 48*, 894-903.

Cummings, J., & Mendez, M. (1984). Secondary mania with focal cerebrovascular lesions. *American Journal of Psychiatry, 141*, 1084-1087.

Darling, C.A., Olmstead, S.B., Lund, V.E. & Fairclough, J.F. (2008). Bipolar disorder: medication adherence and life contentment. *Archives of Psychiatric Nursing, 22*(3), 113-126.

Demertzi, A., Liew, C., Ledoux, D., Bruno, M., Sharpe, M., et al. (2009). Dualism persists in the science of mind. *Disorders of Consciousness: Annals of the New York Academy of Sciences, 1157,* 1-9.

Dewan, M., Haldipur, C., Lane, E., Ispahani, A., Boucher, M., & Major, L. (1988). Bipolar affective disorder. i. comprehensive quantitative computed tomography. *Acta Psychiatrica Scandinavica, 77*, 670-676.

Eker, F., & Harkin, S. (2012). Effectiveness of six-week psychoeducation program on adherence of patients with bipolar affective disorder. *Journal of Affective Disorders 138*(3),409–416.

Forbes, E. (2015, January). Frontiers of Knowledge. Bipolar Research: Advances in Neuroscience and Genetics. *Bp Magazine*. Retrieved from http://www.bphope.com/frontiers-of-knowledge/

Frank, E., Kupfer, D. J., Thase, M. E., Mallinger, A. G., Swartz, H. A., Fagiolini, A. M., et al. (2005). Two-year outcomes for interpersonal and social rhythm therapy in individuals with bipolar I disorder. *Archives of General Psychiatry, 62*, 996-1004.

Frey, B.N., Andreazza, A.C., Kunz, M., Gomes, F.A., Quevedo, J., Salvador, M., Goncalves, C.A., & Kapczinski, F. (2007). Increased oxidative stress and DNA damage in bipolar disorder: a twin case report. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, *31,* 283-285.

Feske, U., Frank, E., Mallinger, A.G., Houck, P.R., Fagiolini, A., Shear, M.K., Grochocinski,V.J., & Kupfer, D.J. (2000). Anxiety as a correlate of response to the acute treatment of bipolar I disorder. *American Journal of Psychiatry, 157*, 956–962.

Frye, M.A., Ryu, E., Nassan, M., Jenkins, Andreazza, A.C., Evans, M.J., McElroy, S.L., Oglesbee, D., Jr., Highsmith, E.W., & Biernacka, J.M. (2017). Mitochondrial DNA sequence data reveals association of haplogroup u with psychosis in bipolar disorder. *Journal of Psychiatric Research, 84,* 221-226.

Gitlin, M., Swendsen, J., Heller, T.L., & Hammen, C. (1995). Relapse and impairment in bipolar disorder. *American Journal of Psychiatry, 152*, 1635–1640

Goldstein, M. J., & Miklowitz, D. J. (1995). The effectiveness of psychoeducational family therapy in the treatment of schizophrenic disorders. *Journal of Martial and Family Therapy, 21*, 361-376.

Gómez Sánchez-Lafuente, C., Reina Gonzalez, R., & Hernandez Abellán, M. (2017) Sexual dysfunction and mood stabilizers in bipolar disorder: A review. *European Psychiatry, 41*, 849. https://doi.org/10.1016/j.eurpsy.2017.01.1682

Gomory, T. (2013). The limits of evidence-based medicine and its application to mental health evidence-based practice: Part one. *Ethical Human Psychology and Psychiatry, 15*(1), 18-34.

Gonzalez-Pinto, A., Mosquera, F., Alonso, M., Lopez, P., Ramirez, F., Vieta, E., Baldessarini, R.J. (2006). Suicidal risk in bipolar I disorder patients and adherence to long-term lithium treatment. *Bipolar Disorders 8*(2), 618–624.

Gonzalez-Pinto, A., Reed, C., Novick, D., Bertsch, J., Haro, J.M. (2010). Assessment of medication adherence in a cohort of patients with bipolar disorder. *Pharma-copsychiatry 43*(7). 263–270.

Goodwin, F., & Jamison, K. (2007). *Manic-depressive illness: Bipolar disorders and recurrent depression.* New York: Oxford University Press.

Hajda, M., Prasko, J., Latalova, K., Hruby, R., Ociskova, M., Holubova, M., Kamaradova, D., & Mainerova, B. (2016). Unmet needs of bipolar disorder patients. *Neuropsychiatric disease and treatment*, *12*, 1561–1570. doi:10.2147/NDT.S105728

Harrar, S. (2020, March 13). *Inside America's Psychiatrist Shortage*. Psycom. https://www.psycom.net/inside-americas-psychiatrist-shortage/

Henriksson, M., Aro, H., Marttunnen, M., Heikkinen, M., Isometsa, E., Kuoppasalmi, K., & Lonnqvist, J. (1993). *Mental disorders and comorbidity in suicide. American Journal of Psychiatry, 150*, 935-940.

Henriksen T.E.G., Skrede, S., Fasmer, O.B., Schoeyen, H., Leskauskaite, I., Bjørke-Bertheussen, J., Assmus, J., Hamre, B., Grønli, J., Lund, A. (2016). Blue-blocking glasses as additive treatment for mania: a randomized placebo-controlled trial. *Bipolar Disorders, 18*, 221–232.

Howland, M., Levin, J., Blixen, C., Tatsuoka, C., & Sajatovic, M. (2016). Mixed-methods analysis of internalized stigma correlates in poorly adherent individuals with bipolar disorder. *Comprehensive Psychiatry. 70*, 174-180.

Hunsley, J. (2007). Addressing the key challenges in evidence-based practice in psychology. *Professional Psychology: Research and Practice, 38* (2), 113-121.

Inder, M.L., Crowe, M.T., Moor, S., Luty, S.E., Carter, J.D., & Joyce, P.R. (2008). ‘‘I actually don’t know who I am’’: the impact of bipolar disorder on the development of self. *Psychiatry: Interpersonal and Biological Processes 71* (2), 123–133.

Janardhan Reddy Y. C. (2012). Prodromal symptoms of recurrences of mood episodes in bipolar disorder. *The Indian journal of medical research*, *135*(2), 154–156.

Javadpour, A., Hedayati, A., Dehbozorgi, G., & Azizi, A. (2013). The impact of a simple individual psycho-education program on quality of life, rate of relapse and medication adherence in bipolar disorder patients. *Asian Journal of Psychiatry, 6*(3), 208-213.

Johnson, F.R., Ozdemir, S., Manjunath, R., Hauber, A.B., Burch, S.P., Thompson,T.R.,

2007. Factors that affect adherence to bipolar disorder treatments: a stated- preference approach. *Medical Care 45*(6), 545–552.

Jonsdottir, H., Opjordsmoen, S., Birkenaes, A.B., Simonsen, C., Engh, J.A., Ringen, P.A., Vaskinn, A., Friis, S., Sundet, K. & Andreassen, O.A. (2012). Predictors of medication adherence inpatients with schizophrenia and bipolar disorder. *Acta Psychiatrica Scandinavica, 127*(1), 23-33.

Kamaradova, D., Latalova, K., Prasko, J., Kubinek, R., Vrbova K., Mainerova, B., Cinculova, A., Ociskova, M., Holubova, M., Smokdasova, J., & Tichakova, A. (2016) Connection between self-stigma, adherence to treatment, and discontinuation of medication. *Patient Preference and Adherence. 10,* 1289-1298.

Kapur, S. (2003). Psychosis as a state of aberrant salience: A framework linking biology, phenomenology, and pharmacology in schizophrenia. *American Journal of Psychiatry, 160*, 13-23.

Kazdin, A. E. (2008). Evidence-based treatment and practice new opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist, 63* (3), 146-159.

Kessler, R.C., Crum, R.M., Warner, L.A., Nelson, C.B., Schulenberg, J., & Anthony, J.C. (1997). Lifetime co-occurrence of DSM-III-R alcohol abuse and dependence with other psychiatric disorders in the National Comorbidity Survey. *Archives of General Psychiatry, 54*, 313-321.

Kirmayer, L.J. (2012). Cultural competence and evidence-based practice in mental health: Epistemic communities and the politics of pluralism. *Social Science & Medicine, 75*, 249-256.

Klerman, G. L., & Weissman, M. M. (1994). Interpersonal psychotherapy of depression: A brief, focused, specific strategy. Jason Aronson, Incorporated.

Kolb, B. & Whishaw, I.Q. (2015). *Fundamentals of Human Neuropsychology* (7th ed). New York, NY: Worth Publishers.

La Roche, M.J. & Christopher, M.S. (2009). Changing paradigms from empirically supported treatment to evidence-based practice: A cultural perspective. *Professional Psychology: Research and Practice, 40* (4), 396-402.

Lavee, Y., McCubbin, H. I., & Olson, D. H. (1987). The effects of stressful life events and transitions on family functioning and well-being. *Journal of Marriage and the Family, 49*, 857–873.

Leclerc, E., Mansur, R.B., & Brietzke, E. (2013). Determinants of adherence to treatment in bipolar disorder: a comprehensive review. *Journal of Affective Disorders, 149*, 247-252.

Levin, J. B., Krivenko, A., Howland, M. S., & Sajatovic, M. (2016). Medication adherence in patients with bipolar disorder: a comprehensive review. *CNS Drugs*, 819-835.

Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine, 71*, 2150–2161

MacDonald, L., Chapman, S., Syrett, M., Bowskill, R., & Horne, R. (2016). Improving medication adherence in bipolar disorder: A systematic review and meta-analysis of 30 years of intervention trials. *Journal of Affective Disorders, 194*, 202-221.

Malhi, G.S., Adams, D., Cahill, C.M., Dodd, S., & Berk, M. (2009). The management of individuals with bipolar disorder. a review of the evidence and its integration into clinical practice. *Drugs, 69*(15), 2063-2101.

McLeod, S. A. (2018, Feb 05). *Mind body debate*. Simply Psychology. https://www.simplypsychology.org/mindbodydebate.html

McClung, C.A. (2013) How might circadian rhythms control mood? Let me count the ways... *Biological Psychiatry, 74*(4), 242-249. DOI: 10.1016/j.biopsych.2013.02.019.

Mehta N. (2011). Mind-body Dualism: A critique from a Health Perspective. *Mens sana monographs*, *9*(1), 202–209. doi:10.4103/0973-1229.77436

Miklowitz, D.J. (2002). *The Bipolar Disorder Survival Guide. What you and your family need to know*. New York: The Guilford Press.

Miklowitz, D.J., George, E.L., Richards, J.A., Simoneau, T.L., & Suddath, R.L. (2003) A randomized study of family-focused psychoeducation and pharmacotherapy in the outpatient management of bipolar disorder. *Archives of General Psychiatry*, *60*, 904–12.

Miklowitz, D. J., Otto, M. W., Frank, E., Reilly-Harrington, N. A., Kogan, J. N., Sachs, G. S., et al. (2007). Intensive psychosocial intervention enhances functioning in patients with bipolar depression: Results from a 9-month randomized controlled trial. *American Journal of Psychiatry, 164*, 1340-1347

Miklowitz, D.J., & Gitlin, M.J. (2014) *Clinician's Guide to Bipolar Disorder.* New York: The Guilford Press.

Miresco, M., & Kirmayer, L. (2006). The persistence of mind-brain dualism in psychiatric reasoning about clinical scenarios. *American Journal of Psychiatry, 163*, 913-918.

Mondimore, F. (2006). *Bipolar Disorder, a guide for patients and families* (2 ed.). Baltimore: The John Hopkins University Press.

Mohr, D. C., Vella, L., Hart, S., Heckman, T., & Simon, G. (2008) The effect of telephone-administered psychotherapy on symptoms of depression and attrition: A meta-analysis. *Clinical Psychology: Science and Practice, 15,* 243-253. doi: 10.1111/j.1468-2850.2008.00134.x

Murnane, Cosely, and Chang et al. (2016) Self-monitoring practices, attitudes, and needs of individuals with bipolar disorder: implications for the design of technologies to manage mental health**.** *The Journal of the American Medical Informatics Association, 23*(3)*,*477-84.

Nash, L. (2007). *Inescapable Ecologies: A History of Environment, Disease, and Knowledge*. Los Angeles, CA: University of California Press.

Nasrallah, H. (2013). Let's tear down the silos and reunify psychiatry and neurology! *Current Psychiatry, 12* (8), 8-10.

National Institute of Mental Health. (2018, April 7). *National Institute of Mental Health*. Retrieved from National Institute of Mental Health: https://www.nimh.nih.gov/health/topics/bipolar-disorder/index.shtml

Nicholas, J., Proudfoot, J., Parker, G., Gillis, I., Burckhardt, R., Manicavasagar, V., Smith, M. (2010). The ins and outs of an online bipolar education program: a study of program attrition. *Journal of Medical Internet Research*,*12*(5), e57

Perlis, R.H., Ostacher, M.J., Miklowitz, D.J., Hay, A., Nierenberg, A.A., Thase, M.E., & Sachs, G.S. (2010). Clinical features associated with poor pharmacologic adherence in bipolar disorder: results from the STEP-BDstudy. *Journal of Clinical Psychiatry*, *71*,

296–303.

Pescosolido, B. A., Monahan, J., Link, B. G., Stueve, A., & Kikuzawa, S. (1999). The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *American Journal of Public Health, 89,* 1339–1345.

Raese, J. (2015). The pernicious effect of mind/body dualism in psychiatry. *Journal of Psychiatry, 18*(1), 1-8.

Rea, M.M., Tompson, M.C., Miklowitz, D.J., Goldstein, M.J., Hwang, S., & Mintz, J. (2003). Family-focused treatment versus individual treatment for bipolar disorder: results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 71*, 482–92.

Regier, D.A., Farmer, M.E., Rae, D.S., Locke, B.Z., Keith, S.J., Judd, L.L., et al. (1990). Comorbidity of mental disorders with alcohol and other drug abuse Results from the Epidemiologic Catchment Area (ECA) Study. *JAMA, 264*, 2511-2580.

Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for Bipolar Disorder. (2004). Australian and New Zealand clinical practice guidelines for the treatment of bipolar disorder. *Australian and New Zealand Journal of Psychiatry, 38*, 280–305.

Sachs, G.S. (2000, December 6). *Barriers to concordance*. Paper presented at the Bipolar Disorder Thoughtleader Summit, Ortho-McNeil Pharmaceutical, Boston, MA.

Sajatovic, M., Ignacio, R.V., West, J.A., Cassidy, K.A., Safavi, R., Kilbourne, A.M., & Blow, F.C. (2009). Predictors of nonadherence among individuals with bipolar disorder receiving treatment in a community mental health clinic. *Comprehensive Psychiatry, 50*, 100-107.

Sajatovic, M., & Jenkins, J. (2007). Is antipsychotic medication stigmatizing for people with mental illness? *International Review of Psychiatry, 19*(2), 107-112.

Sajatovic, M., Levin, J., Fuentes-Casiano, E., Cassidy, K.A., Tatusoka, C., & Jenkins, J.H. (2011). Illness experience and reasons for nonadherence among individuals with bipolar disorder who are poorly adherent with medication. *Comprehensive Psychiatry 52*, 280-287.

Sajatovic, M., Levin, J., Tatusoka, C., Fuentes-Casiano, E., Micula-Gondek, W., Bialko, C.S., & Cassidy, K.A.(2012). Six-month outcomes of customized adherence enhancement (CAE) therapy in bipolar disorder. *Bipolar Disorder, 14*(3), 291-300.

Salloum, I.M., Cornelius, J.R., Daley, D.C., Kirisci, L., & Spotts, C.R. (1999). Differential pattern of alcohol use profile among bipolar alcoholics. Paper presented at the 10th

Annual meeting of the American Academy of Addiction Psychiatry. Nassau, Bahamas

Salloum, I.M., & Thase, M.E. (2000). Impact of substance abuse on the course and treatment of bipolar disorder. *Bipolar Disorder, 2*, 269-80.

Schildkraut, J.J. (1965). The catecholamine hypothesis of affective disorders: a review of supporting evidence. *American Journal of Psychiatry, 122,* 509-522.

Schlegel, S., & Krtezschmar, K. (1987). Computed tomography in affective disorders. Part 1. ventricular and sulcal measurements. *Biological Psychiatry, 22*, 4-14.

Scott, J. (1995). Psychotherapy for bipolar disorder. *British Journal of Psychiatry, 167*, 581-588.

Silverstone, T., McPherson, H., Hunt, N., & Romans, S. (1998). How effective is lithium in the prevention of relapse in bipolar disorder? A prospective naturalistic follow-up study. *Australian and New Zealand Journal of Psychiatry, 32*(1), 61-66.

Simon, G. E., Ludman, E. J., Bauer, M. S., Unutzer, J., & Operskalski, B. (2006). Long-term effectiveness and cost of a systematic care program for bipolar disorder. *Archives of General Psychiatry, 63*, 500-508.

Society of Clinical Psychology. (2018, April 7). Psychoeducation for bipolar disorder. Retrieved from https://www.div12.org/?s=psychoeducation+bipolar

Society of Clinical Psychology. (n.d.). *Treatment Target : Bipolar Disorder.* https://www.div12.org/diagnosis/bipolar-disorder/

Starkstein, S., Fedoroff, P., Berthier, M., & Robinson, R. (1991). Manic-depressive and pure manic states after brain lesions. *Biological Psychiatry, 29*, 149-158.

Stroup, A. L. & Manderscheid, R. W. (1988). The development of the state mental hospital system in the united states. *Journal of the Washington Academy of Sciences, 78*(1), 59–68.

Stuart, R. B. (2007). The evidence missing from evidence-based practice. *American Psychologist, 62* (6), 615-616.

Swartz, H. A., & Swanson, J. (2014). Psychotherapy for Bipolar Disorder in Adults: A Review of the Evidence. *Focus (American Psychiatric Publishing)*, *12*(3), 251–266. doi:10.1176/appi.focus.12.3.251

Swayze, V., Andreasen, N., Alliger, R., Ehrhardt, J., & Yuh, W. (1990). Structural brain abnormalities in bipolar affective disorder. ventricular enlargement and focal signal hyperintensities. *Archives of General Psychiatry, 47*, 1054-1059.

Tacchi, M.J., & Scott, J. (2005). Improving medication adherence in schizophrenia and bipolar disorders. John Wiley & Sons, Chichester.

Todd, N.J., Jones, S.H., & Lobban, F.A. (2013). What do users with bipolar disorder want from a web-based self-management intervention? A qualitative focus group study. *Clinical Psychology and Psychotherapy, 20*, 531-543.

Velligan, D.I., Sajatovic, M., Hatch, A., Kramata, P., & Docherty, J.P. (2017). Why do psychiatric patients stop antipsychotic medication? a systematic review of reasons for nonadherence to medication in patients with serious mental illness. *Patient Preference and Adherence, 11*, 449-468.

Vilhauer, R.P. (2015) Depictions of auditory verbal hallucinations in news media. *Social Psychiatry, 61*(1), 58-63.

Wampold, B.E. & Bhati, K.S. (2004). Attending to the omissions: A historical examination of evidence-based practice movements. *Professional Psychology: Research and Practice, 35* (6), 563-570.

Watzlawick, P., Beavin, J. B., &Jackson, D. D. (1967). Pragmatics of human communication. New York, NY: Norton.

Weiss, R.D., Greenfield, S.F., Najavits, L.M., Soto, J.A., Wyner, D., Tohen, M., et al. (1998) Medication compliance among patients with bipolar disorder and substance use disorder. *Journal of Clinical Psychiatry*, 59, 172-174.

Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout. *Professional Psychology: Research and Practice, 24*, 190-195. doi: 10.1037/0735-7028.24.2.190

Zeber, J.E., Miller, A.L., Copeland, L.A., McCarthy, J.F, Zivin, K., Valenstein, M., Greenwald, D., & Kilbourne, A.M. (2011) Medication adherence, ethnicity, and the influence of multiple psychosocial and financial barriers. *Administration and Policy in Mental Health and Mental Health Services Research, 38*(2), 86–95

APPENDIX A

INTERNAL REVIEW BOARD CERTIFICATION LETTER