The Evolution of the Understanding of Bipolar Disorder during the Course of History

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According to the DSM-IV (2000) Bipolar disorders affect up to 1.6 percent of the population (Halper 2010). The present day definition of bipolar disorder is: any of several psychological disorders of mood characterized usually by alternating episodes of depression and mania (Merriam Webster 1983). How psychologists have developed the current definition and understanding for bipolar disorder has been a detailed journey throughout world history.

 The first recorded case of someone studying bipolar disorder and its symptoms is credited to the ancient Greeks, specifically Greek physicians of the classical period, especially of the school of Hippocrates and, later, of the school of Aretaeus of Cappadocia (Marenos & Goodwin 2005). Hippocrates believed that any mental disturbances of any variety were because of a disturbance of the fluids in the brain. This would be an understandable theory because the Greeks were also studying medicine and the human body at this time. The brain was a tangible subject for the philosophers to use and imagine. Aretaeus of Cappadoci was the first to describe the change mood to mood as not only having a switch but also that there is a mixture of the two moods. Aretaeus believed in Four Humors played a role in causing the conditions he described. The humors were believed to be four bodily fluids – phlegm, yellow bile, black bile, and blood. How these fluids were balanced in the body determined overall health and personality (Watt 2011). Making a correlation between physical aspects of the human body and psychological discourse would have been practical at this time because human anatomy and biology were being studied more than any psychological approach.

 In his book *On the Aetiology and Symptomatology of Chronic Diseases and The Treatment of Chronic Diseases*, he wrote: "I think that melancholia is the beginning and a part of mania’’ and: ‘‘the development of mania is really a worsening of the disease [melancholia], rather than a change into another disease.’’ And some sentences later: ‘‘in most of them [melancholics], the sadness became better after various lengths of time and changed into happiness; the patients then develop a mania.’ (Marneros & Goodwin 2005). Understanding the connection between the mania and the depressive states was vital to conceptualizing bipolar disorder and classifying it as a single mental disorder rather categorizing it as a factor of comorbidity between mania and depression.

 The knowledge of and research conducted by Aretaeus was largely ignored for thousands of years because the perception of the development of mental illnesses, and the societal view of mental illness had changed. At one point in history the origin of bipolar disorder was believed to have been witchcraft. In ancient times, madness was considered a punishment of the gods but also as the distinctive characteristics of the chosen ones; the manifestation of the symptoms was seen as a sign of a divine message (Quintanilla 2010). The belief that supernatural forces were to blame for disease and mental disorders can be traced back to the Middle Ages and the black plague epidemic. It was theorized that no individual could have the power within themselves to exhibit such symptoms such as severe mood swings so it had to be an act of the Devil. The mentally ill were thought to be witches and that their illnesses were caused by demons (Watt 2011). Supernatural forces were the scapegoat for the hardships experienced during this era because it was much too difficult for the citizens to rationalize a true scientifically based reason because so much focus at this time was paid to religion.

 Mostly in northern Europe the number of women believed to have practiced witchcraft was greater than the number of men that were perceived to have taken part in this activity. Bipolar disorder wasn’t the only mental disorder that was blamed on witchcraft. Hysteria and epilepsy were the two illnesses that were most frequently confused with witchcraft or demonic possession, especially if they were accompanied by tremors, convulsions or of loss of consciousness (Quintanilla 2010).

 Bipolar Disorder affects men and women at an equal rate. However, the presentation and course of bipolar disorder differs between women and men. The onset of bipolar disorder tends to occur later in women than men, and women more often have a seasonal pattern of the mood disturbance. Women experience depressive episodes, mixed mania, and rapid cycling more often than men (Arnold 2003). It has been referred to as an equal opportunity disorder in terms of diagnosis, but not experience with the disorder.

Due to the psychological understanding that bipolar disorder may affect women more drastically than it can affect men lead to the belief during the 15th century that the woman’s reproductive system was to blame for the evil they supposedly possessed. Women were more prone to diabolical possession because they were weaker and imperfect in nature than men: “woman is an imperfect animal, inferior to men” and a woman’s reproductive system was the proof of this, the uterus being the source of evil. Women were full of venom during menstruation, so that they were contaminated and capable of contaminate others. The uterus was also an unstable organ which could move from one place to another in the body; it could also press the diaphragm in order to impede respiration. Women, because of their uterus, were unstable human beings (Quintanilla 2010). Another theory developed at this time was that women were imagining their symptoms. At this time in history women were considered second class citizens, inferior to men, and as the much weaker sex, so blaming their symptoms on what was believed as the weaknesses of being a woman was accepted as fact with little to no research to support this claim rather than the norms of the culture at this given time.

It wasn’t until psychiatrist Johann Christian August Heinroth in the 19th century that a more scientifically based explanation of bipolar disorder was created. Heinroth was the first psychiatrist to describe bipolar disorder. Explaining bipolar disorder in scientific terms rather than citing supernatural forces came to be because there was more scientific research being done at this time. The Renaissance was long over and the focus had transitioned from religion to science in regards to explaining previously misunderstood phenomena.

 Heinroth later created three categories for mental disorders in his textbook *Disorders of Mental Life.* The first being hyperthymias, for the mania feelings; second being asthenias to categorize the depression; and lastly hypo-asthenias to categorize the mixture of the two. The last category is where mood disorders were placed, including bipolar disorder. The French psychiatrist Joseph Guislain described in his book Treatise on Phrenopathias or New System of Mental Disorders (1838) a category of mixed states named ‘‘joints of diseases.’’ To this category, he allocated ‘‘grumpy depression,’’ ‘‘grumpy exaltation,’’ and ‘‘depression with exaltation and foolishness,’’ which also included ‘‘depression with anxiety.’’ The first type, especially, features long episodes and an unfavorable prognosis (Guislain, 1838) (Marenos & Goodwin 2005).

 (Jean-Pierre 2009) In the 1850's psychiatrist Jean-Pierre Falret clinically studied bipolar disorder and described it as “the most inhuman of the disease, which disfigures the mind" and also referred to it as circular madness. In 1854 neurologist and psychiatrist Jules Baillarger described bipolar disorder as dual form insanity. While Falret and Baillarger were studying the same disorder and reached similar conclusions the two were working independently of each other.

 (Maj 2002) It was possible for both of these men to do this research because the humane treatment of those with mental disabilities in Paris, France at this time. By taking care of those affected with mental disorders, rather than casting them aside it also provided a base for future research because records of those individuals were kept. These records have acted as a longitudinal study of sorts for those with bipolar disorder because of the detailed records kept by those who worked with the individuals diagnosed. Falret is often credited with publishing his findings first, thus credited with coining the term circular madness and the theory that it possesses.

 However, Emil Kraepelin’s research in the late 19th century on the biological influence of mental disorders is what has led to the modern day understanding of bipolar disorder. Kraepelin was exposed in medical school to several professors who were instrumental in shaping his style of thinking and research for the rest of his career. Most notable among these was Wilhelm Wundt, the founder of experimental psychology (Millon, Grossman, & Meagher, 2004). Kraepelin conceptualized and categorized previously founded information about mixed emotions and various other mental disorders and created a more established understanding of these findings. He distinguished two groups of mixed states: transitional forms, a stage in between, when depression changes to mania and vice versa; and autonomic forms, a disorder on its own. Kraepelin characterized autonomic as the more severe longer lasting of the two forms (Marneros & Goodwin 2005).

To described the mood changes Kraepelin stated “When the depression disappears with remarkable rapidity, one must be prepared for a manic attack – an increased feeling of well being may take the place of depression; this we must perhaps regard as a manic indication, even it acquires no real morbid extent (Maj 2002). The theory of the connection of mania and depression can be traced back to the works of Aretaeus of ancient Greece. Kraepelin’s theories are considered more complex and more developed than Aretaus’ theories because of a greater understanding of science in the 19th and 20th centuries. Kraepelin’s concept of manic-depressive insanity was not just unitary. In suggesting that the range of illness manifestations spanned from temperment – “personal dispostion” in his formulation in German – all the way to depressive, mixed, manic and psychotic states, Kraepelin was formulating what today we consider a spectrum concept of manic-depressive illness (Maj 2002).

 A student of Kraepelin's, Wilhelm Weygandt, published the first book on the subject his mentor had conceptualized. In *On the Mixed States of Manic-Depressive Insanity* Weygandt argued that the brain had independent affective, associative, and activity faculties and that each of these faculties could vary independently-- either up or down (Healy 2008). It is relevant to consider that the two symptom lines, i.e. euphoric mood, psychomotor excitability and flight of ideas, on the one hand, and depressive mood, psychomotor inhibition and thought inhibition, on the other hand, are not stable. But the disorders are characterized by instability in the domain of mood, psychomobility, and thought, and this is a characteristic of the whole circular or manic depressive insanity (Weygandt 1899) (Marenos & Goodwin 2005).

 In 1913, Emil Kraepelin more formally established the term manic-depressive from his study regarding the effects of depression, and to a lesser degree, the state of mania. It may had been Weygrandt’s work that finally led Kraepelin to include a number of disorders that had previously been viewed separately into the category of manic-depressive illnesses in the absence of any basis for distinguishing them (Healy 2008). By the early 1930’s there was greater acceptance of this theory of these mood disorders and the link between them. Kraepelin's work is still regarded as some of the most important in the history of researching bipolar disorder (History of Bipolar 2009).

 There was little done in the study bipolar disorder until a published study in 1952. The gap between published studies could be due to the Great Depression of the 1930's and World War II was also taking place during this time period. It would be understandable that research time and federal funding would go towards benefiting the economy and the war effort, rather than studying mental illnesses that already had an established understanding and was diagnosable by clinicians.

 The published article in 1952 in the Journal of Nervous and Mental Disorders was written by Adolf Meyer who was establishing the theory that bipolar disorder held genetic components. This article was published after Meyer’s death in 1950. The remaining research was conducted by his assistants Anna Mae Bowers and Eunice Winters. By having two women research the genetic component of bipolar disorder after the theories of women and mental health that were prevalent in the Middle Ages can be considered a great strive toward the inclusion of women in the field of psychology, but more importantly can serve as an example of the fight for the equal rights of women that had been, and still is, taking place.

Undoubtedly the two women finished the research out of respect for their mentor Adolf Meyer. Meyer preferred to talk instead of paranoid, hebephrenic, catatonic, and simple parergastic reactions and in terms of manic and depressive thymergastic reactions (Healy 2008). Coming to the United States in 1892, Meyer held positions at the University of Chicago, Illinois Eastern Hospital for the Insane, Worcester Insane Hospital, Clark University, Pathological Institute of New York State Hospitals, and Cornell University before his appointment as professor at the Johns Hopkins University School of Medicine in 1908 (Medical Archives of the Johns Hopkins Medical Institutions, n.d.). Having a medical degree, a vast knowledge of the human body as well as expertise in mental illness Meyer created a more in depth view of the genetic factors that potentially led to the development of bipolar disorder specifically, but any other mental illnesses that are believed to have a genetic base as well.

After relative neglect in the age of melancholy during the 1970’s and 1980’s there has been a renaissance of bipolar disorder during the last decade of the 20th century (Maj 2002). An important theory further investigated at this time was Meyer’s idea of bipolar disorder having some type of genetic component. It would be important to elaborate on scientific findings rooted in biology and the comprehensive knowledge of past research based on medical models to gather a more complex understanding of bipolar disorder as a psychological disorder. There was a strong surge in the study of genetics and heredity in the field of science at this time, so it would be practical to apply the field of genetics to investigate the origin of a mental disorder.

From a series of twin and genome-wide studies, researchers have concluded that bipolar disorder has a genetic component as well as an environmental influence, and that the complexity of this psychological disorder involves multiple genes (Chi 2010). In the history of psychology many studies have been conducted on identical and fraternal twins to gain a stronger sense of how genetics play a role in the development of psychological traits. With a more profound understanding of genetics and heredity twins can be used to study mental disorders that are believed to have a genetic basis, such as bipolar disorder. Published in 2004 in "The American Journal of Psychiatry," Dr. Tuula Kieseppä and colleagues calculated the concordance and heritable rates of 25 pairs of twins with bipolar I disorder. The researchers found that the concordance rate for monozygotic twins was 43 percent compared to 6 percent for dizygotic twins. The concordance rate for monozygotic twins suggests that 43 percent of identical pairs have bipolar 1 disorder, whereas in dizygotic twins, only 6 percent. The significant difference in concordance rate suggests that genetics play a significant role in the contributions to the development of bipolar disorder in the study population (Chi 2010).

In 2007 two Irish researchers, Blennerhasset and Reardon, have formed a link between a common mental condition and a specific malfunctioning part of the genetic code. The discovery opens up the potential for greatly improved diagnosis and early warning of the condition and the possibility of new treatments (Bipolar Disorder Discovery 2007). “This is the holy grail of psychogenetic disease,” states Reardon. “We have stumbled upon a massively important connection”. (Bipolar Disorder Discovery 2007) Blennerhasset and Reardon’s conclusion based on their research that bipolar disorder is linked to an abnormality on chromosome 11q24.2. This discovery does not just benefit those in the psychological field, but it also illustrates the evolution of scientific understanding during the course of the study of bipolar disorder and other medical and mental disorders.

 While research has shown that bipolar disorder most likely has a genetic component, and taking into account that the biological aspect of bipolar disorder has been established other research being done has shown that the etiology of this disorder could also be environmental and biopsychosocial in nature. According to the National Institute of Mental Health, or NIH, there is no single cause for bipolar disorder. Rather, many factors such as heredity and environmental factors act together to increase the risk for this condition.

 Bipolar disorder is a brain disorder with numerous abnormalities in brain structures and functions. For example, abnormal levels of such neurotransmitters as serotonin and norepinephrine are common among bipolar patients (Cheour 2010) (Bressert 2010). The numerous publications about how the brain functions has without a doubt aided in the knowledge gained in the field of psychology. Ever since humans have been aware of the brain’s existence they have wanted to study it and contribute its’ functions to behavior. An example of this would be the ancient Greeks’ perceived knowledge of anatomy and the brain. Information about how the brain works combined with the knowledge of genetics has led to a deeper understanding of mental disorders. More knowledge on the subject has aided in the treatment of, in addition to, diagnose an individual showing symptomology.

If a person has a genetic disposition for bipolar disorder, a stressful life event may trigger this condition. This might include a divorce, death of loved one or loss of a job. A stressful life event alone without the genetic risk does not cause bipolar disorder, however. Alcohol or drug abuse can also increase this risk for the bipolar disorder but does not cause it (Cheour 2010) (Bressert 2010). These two components can lead to the individual with the genetic predisposition to exhibit signs and symptoms of bipolar disorder.

 Numerous types of positive and negative environmental factors can influence the exhibited behaviors of one who is predisposed to living with bipolar disorder. This could explain the previously cited twin study in which both twins were not diagnosable because their environmental situations had different (Butler 2010) There are three subsections of environmental causes: timing, types, and considerations. Firstly, the age range most people show symptoms of bipolar disorder is in their teenage years or young adult years; however, bipolar disorder does not occur at a specific stage in a person's life. The onset of bipolar disorder triggered by environmental circumstances can manifest early in life or much later (Butler 2010).

 Secondly, the type of environmental circumstance can have an impact on showing symptomology associated with mental illness. Stress, abuse, significant loss or other traumatic experiences may play a role in bipolar disorder (Mayo Clinic 1998). The typical time for an individual to experience their first bipolar episode is during their adolescent years, this is a major source of stress for many teens. Due to the episodic nature of bipolar disorder, it can appear anytime there is an exacerbating environmental influence (Carter & Dempsey 2009). Such influences could also be lack of sleep, general disruptions in sleep, stress, and drug or alcohol abuse. Having an understanding of the psychosocial influences in a young person’s life has created an opportunity for psychologists to better understand the development of mental disorders during this step in development. Lastly, it is important to note that not all environmental factors that promote symptomology are negative. In some cases of a student going off to college or an individual getting married or having a child can activate their bipolar disorder.

 When analyzing the research conducted on this topic from the 19th century up until present day it is evident that there are parallels between the original theories of the ancient Greeks and the conclusions drawn from current biological findings. Hippocrates believed mental disturbances were due to a problem with fluids in the brain. This isn’t too far off when one reads that individuals with bipolar disorder due in fact have abnormalities in the brains. Aretaeus theorized that the mania and depression were a mixture which has been proven to be true and elaborated upon with research done within the last two centuries.

 Where the differences lies isn’t in what the Greeks believed, but what society during the Middle Ages believed to be true about demons and witchcraft influencing behavior. The people at this time were struggling to survive and to come to terms with the world in which they lived. These people lived during a time where emphasis was put on God rather than science, so any deviant or unnatural behaviors were attributed to activities deemed “unholy”. The conclusions they came to were as a result of how the world was viewed during this time.

Due in large part to the development of psychology in 1879 there is a more scientific basis for explaining behavior than blaming it on supernatural occurrences. One can only speculate as to what knowledge of mental disorders could have been attained if history hadn’t made science deviate from the path that the Greeks had worked to build.

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