



Review

An Examination of Horace Wells' Life as a Manifestation of Major Depressive and Seasonal Affective Disorders☆☆☆☆

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ABSTRACT

Horace Wells was a Hartford, Connecticut, dentist whose practice flourished because of his clinical skills. He had an imaginative mind that propelled him to the forefront in several aspects of dentistry. Unfortunately, he suffered a recurrent "illness" that began in the winter and resolved in the spring. These symptoms were compatible with both major depressive disorder and seasonal affective disorder as a qualifier. Wells' introduction of nitrous oxide as an anesthetic was also associated with self-inhalation. This led to periods of hypomania, followed by depression. With the progression to ether, then chloroform, there was an episode of mania in January 1848, followed by depression and suicide.

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Introduction

Horace Wells was a brilliant clinical dentist who, during his short life, made significant advances in a number of areas of dentistry, including preventive dentistry, by advocating dental hygiene as well as regular check-ups. Wells recognized the need to start dental care early and to treat children as well, thus beginning the subspecialty practice of pediatric dentistry. His advocacy of patient education was demonstrated by writing and publishing a pamphlet: *An Essay on Teeth; Comprising a Brief Description of Their Formation, Diseases and Proper Treatment*.¹ He pioneered the use of gold for fillings, invented gold solder, and made his own dental tools. Wells traveled to outlying towns to offer treatment; made house calls in Hartford, Connecticut; and treated patients at the Hartford Retreat for the Insane. Dental education and collaboration with peers were evident in the number of students he taught, the continuing support he offered to help establish their practices, and his rapport with fellow dentists. Because of the pain inflicted during dental procedures,

Wells came to recognize the need for painless dentistry, which subsequently led to his investigation and use of nitrous oxide.

Although he had a busy, successful practice, Wells closed his office several times. In 1840 and 1841, he placed three notices in the *Hartford Courant* announcing that he was closing his dental practice due to "ill health." Between 1836 and 1847, his office was closed nine times and located at six different addresses. A recurrent theme in his letters, beginning in 1837, particularly to his sister, Mary Wells Cole (1819–1900; teacher, Westmoreland, New Hampshire, USA), was about his "illness," although no physical or mental cause was ever mentioned. Figure 1 is a tintype portrait of a daguerreotype of Wells.

This paper will explore Wells' life through writings and other reports to gain insight into his "illness," which was probably a depressive mood disorder, specifically major depressive disorder (MDD). Bipolar disorder (BPD) will also be considered because aspects of Wells' behavior are compatible with this diagnosis. Seasonal affective disorder (SAD) will be described as a qualifying diagnosis. The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*, was used for diagnostic criteria.²

A similar approach has been used to analyze the lives of William Thomas Green Morton (1819–1868; dentist, Charlton, Massachusetts, USA) and Charles Thomas Jackson (1805–1880; physician, geologist, Boston, Massachusetts, USA). The former was diagnosed retrospectively with narcissistic personality disorder, with an associated diagnosis of antisocial personality disorder,³ whereas the latter's retrospective diagnosis was attention-deficit hyperactivity disorder, as well as oppositional defiant disorder.⁴ Before these investigations, all three gentlemen were labeled as "tragic" and "flawed." By defining the personality and mood disorders, the authors' aim is to better

* Horace Wells' life is examined as a manifestation of major depressive and seasonal affective disorders to explain aspects of his behavior.

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Fig. 1. A tintype copied from a daguerreotype of Horace Wells.

explain the individual actions of Drs. Wells and Morton, as well as the interaction, which enabled Morton to proceed with the first published report of the use of ether as an anesthetic for a surgical procedure.

Any retrospective psychiatric/psychological analysis is limited by applying contemporary diagnoses to behaviors that are variably documented in an earlier social context. Despite the limitation, this approach does identify patterns of behavior that clearly differ from normative behavior and, by establishing a presumptive diagnosis, helps to explain the actions of individuals.

Depressive Mood Disorders

Mood disorders encompass a wide range of mood issues including depressive disorders, both minor and major, as well as dysthymic disorders, which are a milder form of depression. Also included are BPD, postpartum depression, and medication- or drug-induced depression. SAD used to be a separate category, but with *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, it became a qualifier for the above diagnoses.⁵

MDD is the most common depressive mood disorder and is characterized by a persistent, pervasive low mood. It is associated with low self-esteem and a loss of interest in normal activities. Other symptoms are listed in Table 1. It is disabling and adversely affects a person's family, work, eating and sleeping habits, as well as general health. The most common age of onset is between 20 and 30 years

Table 1

Signs and symptoms of major depressive disorder.

Persistent sad, anxious, or "empty" feelings
Feelings of hopelessness or pessimism
Feelings of guilt, worthlessness, or helplessness
Irritability, restlessness
Loss of interest in activities or hobbies once pleasurable, including sex
Fatigue and decreased energy
Difficulty concentrating, remembering details, and making decisions
Insomnia, early morning wakefulness, or excessive sleeping
Overeating or appetite loss
Thoughts of suicide, suicide attempts
Aches or pains, headaches, cramps, or digestive problems that do not ease, even with treatment

of age. The incidence is 6.7%.⁶ In the United States, approximately 3.4% of people with MDD commit suicide (7% of males and 1% of females).⁷ Up to 60% of people who commit suicide had depression or another mood disorder.⁸ A depressed person may describe multiple physical symptoms, such as fatigue, headaches, or digestive problems. Anxiety is associated with 51% of people with depression and has an impact that delays recovery, increases the incidence of recurrent episodes, causes greater disability, and increases the risk of suicide attempts.⁹ Pain is another coexisting symptom that presents in 65% of depressed patients.¹⁰

A major depressive episode is defined in *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*, as a severely depressed mood that lasts for at least 2 weeks. These episodes may be isolated or recurrent and are categorized as mild, moderate, or severe, based on the impact on social functioning. There are five subtypes or specifiers of MDD, and they are listed in Table 2.

The resolution of MDD occurs over time, with a median duration of 23 weeks and the highest rate of resolving in the first 3 months.¹¹ After the first depressive episode, 80% of people will suffer at least one more episode during their lifetime. The lifetime average is four episodes.¹² Without treatment, recurrences tend to be more frequent and last for increasingly longer periods.

If a patient has an episode of markedly elevated mood, or mania, a diagnosis of BPD is considered; however, mania can occur during or after periods of major depression. When associated with a cause, such as medication or illicit drug intake, this kind of mania is excluded from the diagnosis of BPD. During mania, the person feels or acts abnormally happy, energetic, or irritable. Depending on the severity of the mood elevation and the presence of psychosis, this can be classified as either mania or hypomania. With BPD, the episodes of depression are similar to what has been described for MDD. The incidence of BPD is 3% in the United States, with a mean onset at 25 years of age. The rates are the same for men and women.¹³

Mania is the most prominent feature of BPD and can occur with different levels of severity. During episodes of hypomania, a person may appear energetic and excitable and may be highly productive. As mania worsens, a person may have erratic, impulsive behavior. At its most severe, a person may have a distorted belief about the world, known as psychosis. A manic episode is generally followed by depression. If untreated, a manic episode will usually last for 3 to 6 months.¹⁴ The signs and symptoms of mania are listed in Table 3. During manic episodes, there is often coincident substance abuse. Approximately 50% of patients experience delusions or hallucinations, which can lead to violent behavior.¹⁵ The onset of either a manic or depressive phase is often foreshadowed by sleep disturbances. Mania can be preceded by changes in mood, appetite, and anxiety.

Hypomania is a milder form of mania, with at least 4 days of the same criteria as mania, but a person's ability to work or socialize is not affected, nor is there psychosis. Overall functioning may actually increase during periods of hypomania, with increased creativity, overall activity, and energy levels. Some individuals may exhibit increased irritability. Hypomanic episodes rarely progress to true mania.¹⁶

As with MDD, BPD is associated with suicidal ideation, which leads to suicide attempts. When BPD presents with depression, there is an increased risk of suicide. The average annual rate of suicide is 0.4%, 10 to 20 times that of the general population, with a lifetime risk as high as 20%.¹⁷

SAD is now a specifier for recurrent major depression with a seasonal pattern. This occurs at a specific time of the year and fully remits when the season has passed. The incidence in the United States varies by location, from 1.4% in Florida to 9.9% in Alaska.¹⁸ The symptoms of SAD are listed in Table 4 and are similar to those for depression. Most people with SAD experience MDD, but as

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