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The Management of Madness

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Abstract

Symptom relief is a commendable goal but no proof that a drug corrects anything. Aspirin can often relieve fever and pain, but it does not treat the causes. Medicines prescribed to treat organic diseases — such insulin for diabetes and digitalis for heart failure — have measurable effects that can and must be monitored.

Hundreds of syndromes in the Diagnostic and Statistical Manual only confuse any search for cure, but they give symptoms the appearance of 'recognized medical disorders'. That allows the pharmaceutical industry to advertise psychoactive drugs — analgesics, stimulants, and sedatives — as if they were medicine. Psychoactive drugs are notoriously addictive, which tends to build life-time customers. That is unfortunate for the wide use of drugs, especially stimulants, may contribute to violence.

Keywords: Madness; Psychiatric disorders; Diseases

Introduction

This review presents an evolutionary approach to diagnosis that does three things. It offers an explanation of why psychiatric disorders seem to fall naturally into three categories (personality patterns, neuroses, and psychoses), it suggests ways of resolving these problems, and it encourages a search for cures.

The management of functional (i.e., non-organic) disorders has always been — and is still limited to — the control of symptoms. Spontaneous remission can occur, but there is no specific treatment, no cure, no objective way to evaluate treatment, and no way to know when — or if — cure has been achieved.

Prior to the 20th century, those who could afford it were treated by a physician — often a resident in the home — who prescribed methods intended to restore humoral balance. These interventions, according to Galen, should be of sufficient potency to convince the patient they were effective, and, as Noga Arikha has pointed out, 'sometimes they were' [1].

The poor who went mad were often warehoused in appalling conditions. Francisco Goya y Lucientes did several unpleasant studies of the madhouses in Spain. Lunatics in London were usually sent to St. Mary of Bethlehem Hospital where, for a penny, the public could watch the crazies in their cells. Admission to the hospital was free on the first Tuesday of the month, and its common name, 'Bedlam', soon entered the language as an apt description of the situation. There were two institutions in France; the Salpêtrière for women and the Bicêtre for men. The Bicêtre had over time been an orphanage, a prison, and a lunatic asylum whose most famous inmate was the Marquis de Sade.

All of the following interventions have been reported as remarkably successful in some cases and utterly useless in others. Unfortunately, the objective measurement of treatment effectiveness is not possible

Bleeding

Bloodletting was the most popular treatment for madness for much longer than any of the subsequent of control methods listed below. Galen and the physicians who followed his methods for almost 2,000 years had a rational explanation for the usefulness of bleeding. They believed that were two kinds of blood and these were distributed in separate one-way conduits.

Dark red venous blood was produced in the live and entered the heart, where it mixed with air from the lungs and was burned in a fire that maintained normal body temperature. The fire produced bright red arterial blood and a vital 'pneuma' that passed to the brain. An excess of blood could cause the fire to run out of control, overheat the brain, and cause madness. The logical solution was to reduce the fuel (blood) and dampen the fire.

In 1628, English physician William Harvey (1578-1657) proved that blood is not distributed in separate one-way channels but circulates in a two-way system. Most physicians flatly refused to accept this contradiction of classical wisdom. They said the pacifying effect of a significant loss of blood was proof of Galen's system, and continued to bleed their patients for another two centuries.

American physician Benjamin Rush (1745-1813) trained in Europe and was a firm believer in bleeding. He also invented a chair into which he could lock patients if they were still troublesome after having been adequately bled. During a 1793 yellow fever epidemic in Philadelphia, Dr. Rush bled several thousand patients and probably killed many of those who might otherwise have survived. The American Psychiatric Association calls Rush the 'Father of American Psychiatry' and his image is on the cover of the American Journal of Psychiatry.

When King George III of England (1738-1820) went mad, his doctors started bleeding him and added an antimony preparation [2]. Madness is a highly variable list of symptoms, not an identifiable disease, and there is no way to know what caused the problem. Some authorities believe the King might have had a genetic disease called

porphyria [3]. If so, the traces of arsenic in the antimony preparation would have aggravated the problem, but George was of sturdy German stock and survived his doctors.

Opium

French physician Philippe Pinel (1745-1826) became interested in mental illness after a friend developed a 'nervous melancholy that degenerated into mania' and ended in suicide. Pinel blamed this outcome on mismanagement, and sought employment at a private sanatorium in the hope of improving conditions for other sufferers. Following the French Revolution, in August 1793, he was appointed physician at the men's asylum, the Hôpital de Bicêtre, which then housed about four thousand men, of whom at least two hundred were mentally disturbed.

Pinel stopped punishments, used opium as an effective means of controlling mania, and began to speak to patients regularly. He continued these practices after he moved to the Hôtel de la Salpêtrière in 1795, where he remained until his death in 1826. Pinel was an innovator in other fields as well, and gave the first smallpox vaccination in Paris. There is a statue of Pinel in front of the Salpêtrière in Place Marie-Curie, Boulevard de l'Hôpital.

Digitalis

In the 19th century, dropsy was a well-known and frequently fatal disease. Foxglove leaf often — but not always — produced a rapid resolution of symptoms, and the active substance, digitalis, was for a time considered a wonder drug. Dr. Paul Gachet apparently used it to treat Vincent Van Gogh after the artist suffered severe 'melancholia' following the departure of fellow artist Paul Gauguin (1848-1903).

After Van Gogh moved to Arles, he begged Gaugin to join him and help establish an artists' colony there. Van Gogh's many sunflower paintings may be related to Gaugin, who spent his childhood in Peru, where the sunflower is supposed to have originated. Gaugin went but was not happy and decided to leave. The two men argued, and during one of these quarrels Van Gogh 'may or may not have threatened Gauguin with a razor, but he definitely cut his (own) ear' [4].

Van Gogh entered the hospital at Saint Paul-de-Mausole on 8th May 1889. One year later he left the clinic for outpatient care by Dr. Paul Gachet in Auvers-sur-Oise. Van Gogh painted two portraits of Dr. Gachet, and each picture includes a bundle of foxglove leaves on the table in front of the doctor. Van Gogh's mental status seemed to improve, but then he shot himself in the chest and two days later died in the arms of his faithful brother, Theo.

Dropsy was eventually seen as a syndrome, the common result of several different disease processes. Digitalis is effective in relieving the symptoms when they are due to heart failure but is not a reasonable means of controlling madness.

Surgery

In September 1848, a spectacular accident in the United States suggested the possibility of more active way to control madness. A 21-year-old railroad construction supervisor named Phineas Gage was preparing an explosive charge, tamping a 2.5 cm (one inch) steel rod into a drill hole. A premature explosion threw the rod straight up through his left cheek, behind his left eye, and out the top of his skull. Gage immediately convulsed but soon recovered consciousness and was able to walk and talk. A local doctor removed the rod, cleaned the subsequent granulation tissue, and treated an infection that followed.

Gage recovered physically, but there were drastic changes in his personality. He had been a sober and reliable worker, but after the accident he was unpredictable, untrustworthy, and could not hold a job. Gage died penniless and epileptic thirteen years later, in 1861. The accident must have destroyed much of the front of his brain, but the exact damage is unknown because there was no autopsy. Many doctors believed, or at least hoped, that these impressive changes in Gage's behavior indicated that the 'personality' might be located in the frontal lobes of the brain.

In the early 20th century, Portuguese neurologist Antonio Caetano de Abreu Freire Egas Moniz (1874-1955) tried cutting the nerve fibers that link the frontal lobes to the rest of the brain. Moniz claimed that this procedure, called lobotomy or frontal leucotomy, reduced the symptoms of madness, but he admitted that the operation often blunted the personality. Moniz shared the 1949 Nobel Prize in physiology and medicine for his 'discovery of the therapeutic value of leucotomy in certain psychoses' [5]. Some of those who underwent the procedure were children of the wealthy such as Joseph Kennedy's daughter Rose and H.L. Hunt's son, Hassie.

Electrical

In 1928, Italian neurologist Ugo Cerletti (1877-1963), who had worked with Emil Kraepelin, was named Chair of the Department of Mental and Neurological Diseases at the University of Rome. At that time, Cerletti and many other physicians believed that epilepsy and schizophrenia were illnesses that did not occur together. Subsequent studies have shown that this is not so, but the idea led Cerletti and two colleagues, Lucio Bini, and L.B. Kalinowski, to design an apparatus that could produce epileptic-like convulsions in patients. In 1938, Cerletti reported that a patient who had suffered delusions and hallucinations was able to return to normal following electroshock therapy (EST). Electro-shock made Cerletti famous [6].

Some notable shock therapy recipients include Ernest Hemingway, who shot himself after undergoing electro-shock treatment at the Mayo Clinic; Silvia Plath, who also committed suicide; the poet Robert Lowell; film actress Frances Farmer; and pianist Vladimir Horowitz.

EST was initially used to treat schizophrenia, but more recently physicians have claimed that the procedure is an effective treatment for depression. Others have used electroshock to treat Parkinson's disease.

A variation used today is called electro-convulsive therapy (ECT). The patient is given paralytic agents to avoid major convulsive movements, and the electric current is delivered to only one side of the head. How electro-convulsive therapy achieves its effects is not known but the procedure invariably erases the subject's memory of the events leading up to the treatment and the treatment itself. The possibility of brain damage has not been extensively studied or conclusively disproved.

Hormonal

Manfred J. Sakel (1900-1957) was born in Nadwórna, then in Austria-Hungary and now in Ukraine. In 1933, Sakel decided to see if profound coma might give the brain a chance to reorganize. He used insulin to produce hypoglycemic comas in mentally disturbed patients at the University of Vienna Neuropsychiatric Clinic, and claimed that up to 88% of his patients improved following this treatment. Other

doctors questioned the accuracy of these reports, but insulin shock (or coma) remained a popular treatment for many years. Insulin shock, like electroshock, erases the subject's memory of the events leading up to the treatment and of the treatment itself.

Some of those who underwent insulin shock were James Forrestal, first US Secretary of Defense, who committed suicide in 1949; Russian dancer Vaslav Nijinsky; and Zelda Fitzgerald, who died in the locked ward of a burning mental hospital [7]. The results of hypoglycemic comas in other clinics did not reach the success rates Sakel reported, and there were some fatalities.

Chemical

In 1949, Dr. John Cade [8] (1912-1980) was working at a psychiatric facility in Melbourne. Dr. Cade had recently been released from a prisoner-of-war camp in Singapore. He decided mania might be the result of the excess, deficiency, or imbalance of an unidentified substance (the black bile?). He tested this assumption by injecting urine from mentally ill patients into the abdomens of guinea pigs and reported that these animals died more quickly than those injected with the urine of mentally healthy persons.

Dr. Cade thought the toxicity might be due to uric acid ($C_5H_4N_4O_3$), a component of urine. Uric acid does not dissolve easily and is difficult to inject so Cade used a closely related molecule, lithium urate ($C_5H_3LiN_4O_3$) that differs only by the substitution of one lithium (Li^+) ion for one of the four hydrogen (H^+) ions.

Cade believed he saw a tranquilizing effect, so he tested lithium salts on himself and a few patients. One man who had been 'troublesome' on the ward seemed calmer and was discharged. Cade's report that mania responded to lithium led to the wide use of lithium salts for manic depression (later bipolar disorder) for several years. The results of lithium therapy were not uniformly good, and there were several deaths. The use of lithium salts is said to have declined in recent years.

Psychoactive Drugs

In the late 1930's, Paul Charpentier, chief chemist at Rhône-Poulenc (now Sanofi-Aventis) was looking for a better antihistamine when he synthesized a three-ring (tricyclic) molecule he called promethazine, a drug that was much more sedative than most antihistamines. This effect suggested the drug might be commercially viable as a sedative.

Charpentier synthesized several variations of the promethazine molecule, including one called chlorpromazine, a drug first marketed in Europe in 1952 as Largactil. Two years later, in 1954, Smith, Kline & French (now part of GlaxoSmithKline) introduced chlorpromazine to the American market under the name Thorazine. Clinical trials showed Thorazine blocks some symptoms of psychosis and the drug quickly became a clinical and commercial success.

The introduction of synthetic psychoactive drugs in the mid-20th century was a major advance that allows allowed many severely disturbed patients to be managed outside of mental hospitals. Chemical control is more humane than many of the older methods mentioned above.

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