J Forensic Sci, Sept. 2002, Vol. 47, No. 5
Paper ID JFS200049_475
Available online at: www.astm.org

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PMS, Psychosis and Culpability: Sound or Misguided Defense?*

ABSTRACT: Premenstrual Syndrome (PMS) is believed to affect up to 90% of women of reproductive age. A small subset of women have been identified who actually experience psychotic symptoms in the premenstrual phase of their cycles. Not surprisingly, PMS has made it into the courts where it has been offered as a defense for criminal acts. The defense has generally fared poorly in the United States, although it has been successfully used as a factor in supporting diminished capacity in Great Britain. The following paper sets out to review the medical literature on premenstrual syndrome with a particular focus on premenstrual psychosis. Available literature from both medical and legal sources is then utilized to investigate instances in which premenstrual psychosis has been invoked as a defense in the courts.

KEYWORDS: forensic science, premenstrual syndrome, late luteal phase dysphoric disorder, premenstrual dysphoric disorder, insanity, diminished capacity, mitigating factor

In 1931, Dr. Robert Frank first coined the term "premenstrual tension" to describe the familiar cluster of complaints that precedes the onset of menses in 20–90% of women during their reproductive years—headache, backache, abdominal pain, breast fullness and discomfort, weight gain, abdominal distension, difficulty with concentration, fatigue, nausea and emotional symptoms such as depression, nervousness, irritability, restlessness, and generalized emotional tension. In 1953, Dr. Katherina Dalton applied the more modern term "premenstrual syndrome" (PMS) to the set of symptoms identified by Dr. Frank (1).

Since its inception, the syndrome has been fraught with controversy, with researchers and experts in the field contradicting one another in reports on all aspects, including prevalence, definition, etiology, pathobiology, and treatment efficacy.

Common lore holds that over 150 symptoms have been associated with the menstrual cycle (2); thus, PMS is defined more by its particular timing than by a specific symptom cluster (3). The symptoms occur in the luteal phase of the menstrual cycle and, more precisely, in the six days prior to the onset of menses (3). As many as 90% of women suffer from PMS in some form; however, the percentage of women who experience severe symptoms that lead them to seek medical or psychiatric treatment has been estimated to be about 5% (4).

Women who consult psychiatrists for treatment are most often seeking alleviation of affective symptoms, such as depression, anxiety, and irritability (5). Studies indicate a higher incidence of psychiatric hospital admissions for acute depressive episodes in women during the paramenstruum, the days before and immediately after the onset of menstrual flow (6).

A woman presenting to her physician with a premenstrual complaint requires a thorough objective assessment. Many women who perceive changes premenstrually come to realize that the symptoms are actually present constantly or sporadically throughout the month, but societal attitudes about PMS lead to a heightened awareness during this particular time (7). A psychiatrist evaluating a woman with premenstrual complaints needs to take a careful psychiatric history with attention to affective disorders, substance abuse, dissociative episodes, seasonal variations and obsessionality; mental status exam; family history; and a complete reproductive history across the life cycle (3). Though it is believed that regularity of the menstrual cycle bears no impact on whether a woman will have PMS or not, Osofsky and colleagues (4) have observed worsening PMS symptoms in the months following tubal ligation, while others have noted particularly troubling symptoms in adolescence when cycle regularity may not yet be established (8). In addition, a physical exam and gynecological examination with Papanicolaou smear and assessment of hormonal status should be made. Laboratory tests including complete blood count, blood chemistry panel, urinalysis, thyroid hormone levels, estradiol, progesterone and prolactin levels may also be obtained; however, efforts to correlate lab data to PMS symptoms have by and large been disappointing, and investigators disagree on the utility of obtaining hormonal levels routinely in the work-up (3,4).

The numerous treatment strategies proposed up through the early 1980s generally met with inconsistencies due to fundamental methodological flaws in outcome studies. These included poor syndromal definition, inadequate subject recruitment criteria, retrospective study data, and insufficient observation periods that failed to take into account the variability of the syndrome from cycle to cycle (7). In 1984, Hamilton and colleagues reported that over 327 treatments had been recommended with mixed results, and observed that a high placebo effect, found to average 60% in PMS studies, further confounded efficacy assessments (3).

In 1983, the National Institute of Mental Health (NIMH) sought to formalize the definition of the syndrome in order to facilitate PMS research (3). The criteria decided upon were as follows: 1) a

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* 2000 *Award Winner*/Richard Rosner Award for the Best Paper by a Fellow in Forensic Psychiatry or Forensic Psychology.

Received 14 Feb. 2000; and in revised form 1 June 2000; accepted 2 March 2002; published 31 July 2002.

marked change of about 30% intensity of symptoms measured intermenstrually, from cycle days 5 to 10, as compared with that premenstrually, within the 6-day interval prior to menses, and 2) documentation of these changes for at least two consecutive cycles.

With these defining criteria came great advances in the field of PMS research. Confirming the diagnosis prospectively and ruling out other disorders were major methodologic advances (9). Investigators began encouraging women to keep symptom diaries and to chart symptoms through several cycles. According to Rubinow, this type of prospective longitudinal symptom reporting is the only acceptable way to demonstrate a relationship between mood changes and the menstrual phase. He cautions, however, that these tools remain extremely subjective and suggests that rating scales performed by another member of the subject's household might prove valuable (7).

The etiology of PMS remains unclear, although the most recent data suggest that the symptoms result from a complex series of events mediated partly by the serotonin system and triggered by ovulation (9). A growing database of treatment studies now indicates a role for serotonin reuptake inhibitors in alleviating the affective components of PMS (10,11). Likewise, studies have revealed roles for alprazolam (5,12), spironolactone (13), and calcium carbonate (14) in alleviating negative mood symptoms associated with PMS.

Since the syndrome encompasses such a variety of symptoms both physiological and psychological, the American Psychiatric Association (APA) felt compelled to consider the question of whether the symptoms of PMS may constitute a psychiatric disorder. Thus, when the APA Work Group convened in 1985 to create the DSM-III-R, one of the proposed diagnostic categories was late luteal phase dysphoric disorder (LLPDD) (15). The term was coined in order to distinguish it from PMS, and the diagnostic criteria included psychological disturbances that seriously interfere with work, ordinary social activities, or relationships, and arise during the luteal phase of the menstrual cycle, ending within a few days of the onset of menstruation.

Controversy immediately followed the proposed diagnosis. Some feared it would become a catchall used in lieu of more complicated determinations, and others feared it would lead to the stigmatization of women. For these reasons, the APA did not include the LLPDD classification in the main text of the DSM-III-R, but inserted it into the appendix as a "proposed diagnostic category needing further study (15)."

Premenstrual Psychosis: A Review of the Literature

The proposed diagnostic category of LLPDD, while a severe form of premenstrual disturbance, did not include psychotic features. Yet, scattered reports of patients presenting with psychotic symptoms in the late luteal phase of the menstrual cycle had appeared for decades in psychiatric literature, usually referred to as "cyclic psychosis," "hyperestrogenic menstrual psychosis," or "periodic psychosis (16,17)." In fact, Kraepelin made the earliest connection between periodic psychoses and the menstrual cycle (18).

In 1963, Altshule and Brem (19) described a condition called "periodic psychosis of puberty" in which adolescent sufferers experienced psychotic symptoms premenstrually that resolved with the onset of bleeding only to reoccur with the next cycle. Endo et al. (8) (1978) described seven cases of periodic psychosis related to the menstrual cycle, five with premenstrual recurrence of episodes. In 1979, Felthous et al. (20) reported a case of a 21-year-old woman with cyclic psychotic episodes that started and ended with menses. Four years later, Dennerstein et al. (16) described a case of a 26-year-old woman who suffered a postpartum psychosis after the birth of her fourth child and was subsequently re-admitted to the hospital six times over six months with recurrence of psychosis just before her menses; the authors reported successful treatment of the patient with danazol, a synthetic steroid which inhibits ovulation. In 1988, Brockington et al. (21) described a series of patients with postpartum psychosis showing a pattern of remission followed by relapse in the luteal phase of the menstrual cycle. Gerada and Reveley (22) (1988) reported a case of a 34-year-old woman with recurrent psychotic episodes appearing in the premenstruum. Schenck et al. (23) (1992) described a 26-year-old woman who experienced postpartum psychotic depression with premenstrual recurrences for 33 consecutive months who, at one point, attempted suicide by setting fire to herself, and, after several failed attempts to control the illness with medications, ultimately achieved remission with bupropion. Lovestone (24) (1992) reported a case of a 21-year-old woman with a history of recurrent premenstrual psychosis associated with an increase in spontaneous blink rate, which he offered as evidence supporting a hormonal basis for the psychosis. Korhonen and colleagues (25) (1995) described a single case of a woman with recurrent psychosis resulting in seven psychiatric hospitalization over 13 years, with symptoms always presenting in the late luteal phase and rapidly dissipating after the start of her menstrual flow, who was successfully treated with percutaneous estradiol.

The reason psychotic symptoms may arise in the premenstruum remains unclear. Some have hypothesized that the fall in circulating ovarian steroids (estrogen, progesterone, and their metabolites) during ovulation may have an effect on dopamine neurotransmission (21). This effect is believed to be similar to the mechanism implicated in postpartum psychosis whereby supersensitive dopamine receptors are exposed by the rapid withdrawal of circulating estrogens following delivery (24). Of interest, psychotic symptoms have also been reported following the removal of a hydatidiform mole, when circulating levels of estrogen and progesterone would predictably fall (26).

These examples illustrate that psychotic symptoms associated with the menstrual cycle have appeared in the literature, although not with great frequency. In 1993, a thorough literature review by Severino and Yonkers (17) exploring the subject concluded that there was insufficient evidence in the literature to support the addition of psychotic symptoms to the diagnostic criteria for LLPDD.

PMS and the Law

The issue of whether premenstrual syndrome can be so mentally and emotionally incapacitating as to excuse a woman of responsibility for her own actions has been a topic of some debate. Feminists have generally resisted this notion, fearing a stigmatization of women as victims of "raging hormones." This fear is not unfounded, as popular periodicals have been littered with such sentiments through the ages. As recently as the 1980's, the New York Times referred to remarks made by a physician and former member of the Democratic Party's Committee on National Priorities who declared women unfit for executive office: "imagine a female bank president making loans at that particular period." The article went on, ". . . Or worse, a menopausal woman in the White House faced with the Bay of Pigs, the Button and—hot flashes (27)."

Not surprisingly, the issue has also made its way into the courts where PMS has been raised as a defense strategy in criminal and, to a lesser extent, civil cases. Although PMS is recognized as a form of legal insanity in France (28), and a similar PMS defense has seen some favorable outcomes in Great Britain, this does not presently hold true in the United States.

Summary of Relevant Legal Concepts

Generally, criminal law rests upon the principle of free will and is designed to punish only those individuals who are morally blameworthy for illegal acts committed by choice. The law recognizes, however, that there are individuals who have a limited ability to reason and exercise free choice. Such is the concept of legal insanity, which describes a mental state that is sufficiently disordered so as to relieve a defendant of blameworthiness or criminal responsibility for an offense (29). Insanity is a complete defense to a criminal charge and, if successfully raised, can lead to exculpation.

Insanity is a finding that can be made by a judge or jury based upon the evidence presented in the case. Expert psychiatric testimony may be used to support (or counter) the defense in court. The definition of insanity continues to endure refinement as legal thinking evolves. All jurisdictions in the United States have adopted one or more tests for an insanity determination. Two fundamental requirements are common to each test: 1) the defendant must suffer from a mental disease or defect, and 2) a causal relationship must exist between the disease or defect and the criminal offense (30).

A successful PMS defense must be predicated upon the acceptance of premenstrual syndrome as a psychiatric illness. The confusion around the diagnosis, illustrated by the controversy surrounding its inclusion in the DSM-IIIR in the 1980's, made it unlikely that PMS could be used successfully as a criminal defense since all of the insanity tests require the presence of a known "mental disease or defect."

A distinct defense from insanity that is recognized in the U.S. and England is known as automatism. This defense excuses criminal conduct committed while the defendant is in an unconscious or semi-conscious state, as might arise from a condition such as somnambulism, delirium, or epileptic seizures. The automaton acts without intent, exercise of free will or knowledge of the act. Automatism is a complete defense and, when raised successfully, leads to acquittal and release of a defendant (30).

A third defense strategy is known as diminished capacity. Unlike the two described above, diminished capacity is not a complete defense to criminal conduct, but, rather, a factor that may be taken into account to reduce a charge to a lesser offense (31). Diminished capacity denotes a state in which a defendant perpetrates a crime under extraordinary circumstances, having been affected by a psychological condition that prevented the formation of the requisite intent for the criminal act. When raised successfully, a criminal charge of murder, for example, may be commuted to manslaughter, which is precisely the outcome in several English cases described below. Not all jurisdictions in the United States recognize diminished capacity.

Related but distinct is the legal practice of using a mitigating factor in sentencing. Here, the charge is not necessarily reduced, but, rather, the sentence. A defendent may, in fact, have committed the crime, but under the influence of a condition that prevented full control and appreciation of the behavior (32). The benefit of such a strategy, when successful, is the resultant control the court maintains over the individual, whose reduced sentence and punishment may be contingent upon treatment and periodic evaluations. A defendant who, in contrast, successfully pleads a substantive defense such as temporary insanity or automatism may be released without a probationary mechanism in place to protect the public from future antisocial acts (30).

PMS on Trial: The Cases

As early as 1865, PMS was posited as a cause of temporary insanity in a murder trial. Mary Harris had fired two fatal shots into her ex-lover, claiming that he had promised to marry her, proceeded to ruin her, and then betrayed her by marrying another. During the trial, medical testimony supported the defense of temporary insanity at the time of the shooting due to "severe congestive dysmenorrhea." One of her physicians testified that "uterine irritability is one of the most frequent causes of insanity." The jury acquited Ms. Harris within five minutes of deliberations (33).

Following this monumental case, the PMS defense strategy continued to surface periodically in criminal courtrooms, but it was not until the latter part of this century that it grabbed the attention of the American public.

In *People v. Santos* (34) (1982), a 24-year-old Brooklyn woman was arrested for striking her 4-year-old child. The defense moved to dismiss the charges, alleging that she was suffering from premenstrual syndrome at the time of the assault. This contention sparked a great stir in both legal and public arenas. After oral argument, the court denied the motion for dismissal. A plea bargain was subsequently accepted by both sides that reduced the felony charge to a misdemeanor, and prevented the controversial defense from being heard before the court. However, the case remains noteworthy since the court agreed to hear PMS testimony in support of the defense, even if only in the pre-trial stage of the litigation (35).

In discussing the case, Brooklyn District Attorney Elizabeth Holtzman commented: ". . . PMS is a defense without merit . . . There is no scientific evidence that there is any such thing as a syndrome which causes women to become insane or violent in connection with the menstrual cycle (36)." Ms. Santos, the accused, did little to bolster acceptance for the defense in the public eye when, during the publicity hype before the trial, she commented in a televised interview that "my nerves are not that bad that I am just going to beat up on my kid because my period comes down (36)."

PMS was raised as a defense strategy in 1983 in the United States Bankruptcy Court, this time in a civil as opposed to a criminal case. In *Lovato v. Irvin* (37), Jamie Lynn Irvin, a woman with a long history of violence and extreme jealousy, stabbed her lover, Betty Ann Lovato, in the back and chest with a steak knife. In addition to the criminal charges, Lovato filed a civil suit seeking compensation for her medical expenses. Shortly thereafter, Irvin filed a petition for bankruptcy, but Lovato countered by alleging that the money owed her was non-dischargeable under federal regulations since her actions were "willful and malicious." Irvin contended that her actions were neither willful nor malicious, but were the result of uncontrollable conduct due to premenstrual syndrome.

The court took extensive testimony from the defendant, the plaintiff, a psychologist, a psychiatrist and an obstetrician, but, ultimately, decided that the PMS defense lacked validity. Judge Jay L. Gueck wrote: "The Diagnostic and Statistical Manual (DSM) . . . does not even list PMS. The latest edition appears to be DSM-III, published in 1980. It does not recognize PMS as mental illness, as a mental disorder, or as a personality disorder . . . the diagnosis of PMS and its impact on human psyche is not fully known and there is little information on the subject . . . Its acceptance as an explanation for improper conduct has not yet been established, either medically or legally . . . No expert in this trial opined PMS an excuse or exculpating factor in violent behavior. Given the present knowledge of PMS, it is not surprising that it has not yet been accepted in the United States as a defense to criminal conduct or intentional torts."

As in *Santos,* the defendant, while trying to establish a causal relationship between her violent history and her menstrual periods, appeared insincere to the court. Witnesses testified Ms. Irvin had

boasted on numerous occasions that she could avoid taking responsibility for her actions "by telling the shrinks what they want to hear" and that she could "fake the shrinks out."

Various courts subsequently rejected the PMS defense, but it was accepted in *Commonwealth v. Richter* (38) in 1991. The defendant, who had been pulled off the road by the police for weaving across lanes while driving a car containing her three children, became assaultive when she learned that her children would be placed in protective services after she failed a breathalyzer test. At trial, she testified that the breathalyzer results were "skewed," and that her PMS, which was moderate, made her abusive towards the police. Considering the "totality of the evidence," the court concluded that either intoxication or PMS could have caused the defendant's abusive behavior—raising a "reasonable doubt" concerning her guilt.

The concession in *Richter* that PMS may have affected the defendant's behavior and resulted in her acquittal is more likely an anomaly than an important legal precedent. First, the defense was used in a rather unconventional way, i.e., to explain behavior rather than demonstrate an absence of intent. Second, the defendant's education, socioeconomic standing, and resourcefulness may have invited the court's leniency (35).

The British courts drew attention in 1980 when two women successfully pleaded diminished capacity due to PMS in crimes of murder and had the charges reduced to manslaughter (39).

In *Regina v. Craddock*, a 30-year-old woman with some 30 prior convictions fatally stabbed a barmaid. Her earlier offenses included vandalism, theft, trespassing, writing threatening letters and weapons possession (40). During the substantial time she spent in custody, prison guards noted episodic psychotic and violent behavior that corresponded with her menstrual periods. Between outbursts, she was reportedly quite normal and pleasant. Dr. Katharina Dalton, the defense's expert witness, diagnosed Craddock with PMS and prescribed progesterone injections. Although the jury convicted her of manslaughter due to diminished capacity incurred by PMS, the court commuted sentencing and allowed for a period of treatment. The medication stabilized Craddock's condition, and she received three years probation contingent upon continued treatment (41).

That same year, in the case of *Regina v. English*, the court again accepted PMS as a mitigating factor. Christine English deliberately used her car to pin her husband against a lamppost, wounding him fatally. Her defense team pleaded diminished responsibility on the grounds of PMS. English had been expecting her menstrual period at the time of the attack and had not eaten for nine hours due to emotional distress. Dr. Katharina Dalton testified during the trial that English committed the homicide while under the influence of an adrenaline surge that resulted from decreased blood sugar, a condition intolerable to women suffering from PMS. According to Dalton, this adrenaline surge caused the increase in violence, irritability, and impulsivity. Accepting that English had acted under exceptional circumstances, the court reduced the murder charge to manslaughter. English received one year probation with the condition that she eat properly and avoid alcohol (41).

In the 1988 case of *Regina v. Reynolds*, the British Criminal Court of Appeals reduced a conviction and life sentence from murder to manslaughter with supervised probation. The 20-year-old defendant had killed her mother by hitting her on the head with a hammer. During appeal, the defendant's expert medical witness, Dr. Katharina Dalton, testified that Reynolds had diminished responsibility for her murderous behavior due to a combination of PMS and postnatal depression. After Dr. Dalton's testimony, the prosecuting attorney agreed to accept a plea of guilty to manslaughter based upon diminished capacity (16).

PMS, Psychiatry, and the Law: An Unclear Future

In 1993, the APA reconvened to create DSM-IV, and elected to incorporate the diagnosis of premenstrual dysphoric disorder (PMDD) into the manual. Premenstrual dysphoric disorder was listed in the main text of the DSM-IV as a possible form of depression, but the definitional symptoms were placed in the appendix. The symptoms of PMDD were listed as essentially the same as those of LLPDD. However, the name was changed because PMDD was somewhat less cumbersome, and the new name was less misleading, as it removed the emphasis from endocrine factors, to which not all symptoms were believed related (16).

Once again, controversy ensued. The inclusion of PMDD in the main body of the DSM-IV apparently suggested its acceptance by the APA as a valid psychiatry entity. Critics argued that insufficient data existed to validate the diagnosis, and feminists argued that the diagnosis could be used to discriminate against women. The legal community predicted that the defense would be tried in the courts with greater frequency, as PMS effectively now bore the psychiatric profession's stamp of "mental disease (16)." No such trend, however, has been reflected in published legal materials to date.

A Case Report

Mrs. B., a 39-year-old married mother of two, was brought into the ER by EMS and her husband, who had called 911 upon his return from work that afternoon. At that time, he had found his wife in an acutely agitated and psychotic state, alternating between incoherent paranoid rambling, and shouting obscenities, banging her head against the wall, and threatening those who came near her. Her husband, no stranger to such episodes, immediately recognized the all-too-familiar symptoms and knew that his wife needed to be secured in a safe environment. He proceeded to call 911.

When received in the ER, the on-duty psychiatrist noted Mrs. B. to be extremely agitated, combative, paranoid, and threatening. She required four-point restraints for the preservation of safety—her own as well as that of those around her—and the services of six male security guards were required to effectively achieve this goal. Several times she managed to free her small-boned wrists and ankles from the restraints causing, in this process, less exhaustion to herself than to the security team working on her containment. Once secured, she was given Haldol and Ativan injections to help calm her.

Fortunately, the medications had the desired effect on Mrs. B. and she gradually settled down and became more cooperative. At this point, Mrs. B. recounted multiple similar episodes in the past, each beginning on the day prior to her menstrual period and lasting for 24–36 hours thereafter. She confirmed that she had, in fact, begun menstruating that same day.

The episodes had begun shortly after the birth of her first child at age 20 and had necessitated numerous visits to emergency rooms throughout the years. She had been admitted to hospitals on several occasions, but extensive gynecological and endocrinological workups had revealed nothing remarkable. She had no history of interepisodic psychiatric illness. A trial of oral contraceptives had been unsuccessful in controlling symptoms and led to side-effects which the patient found intolerable. She had refused attempts to ameliorate episodes with progesterone injections despite advice from gynecologists with whom she had consulted, fearing again that the side-effects would be unbearable.

Mrs. B. explained that each month, she experienced the rapid onset of severe premenstrual abdominal cramps, usually the day before her menses. Attempts to control the pain with oral analgesics and muscle relaxants, including benzodiazepines (Valium) and opiates (Dilaudid), were successful when initiated immediately at the onset of cramping, and seemed to abort psychotic episodes. Failure to take the medications at the appropriate time invariably led to the symptoms described above. Following each psychotic presentation, Mrs. B. experienced amnesia for the preceding events.

During 14 years of marriage, her husband had witnessed a great many of these episodes and verified the patients's account of events. A family source explained that all of the women in Mrs. B.'s family suffered from significant PMS, but none to the same extent.

After relating this portion of her history, Mrs. B. fell asleep. Her restraints were removed, and she remained asleep throughout the night. She awoke early the following morning, and was both calm and cooperative, a much different woman from the one who struggled so intensely with ER personnel the previous evening. She did not recall the events leading up to her arrival in the emergency room or the details of what had followed. She did not appear surprised in the least, however, when the actual events were related back to her. She agreed to remain under observation for a few more hours until her husband could be contacted to pick her up. She was discharged that morning at 10 o'clock with an appointment made for her to follow up with the out-patient psychiatrist who usually prescribed her medications.

At the time of her presentation to the ER, Mrs. B. was acutely psychotic and her behavior—fighting, shouting, threatening, etc.—were motivated by the paranoia which had overcome her at the time. Thankfully, Mrs. B. did not commit a criminal act while in this state, but, if she had, observations support the notion that she was suffering from premenstrual psychosis and that her behavior was causally linked to that psychosis. The severe disorder of her thought processes, and the acuity of change, precluded the possibility that her behavior was driven by choice. Had she commited a crime, she quite possibly could have met the criteria for temporary insanity.

If Mrs. B. had been on trial, there would have been a plethora of evidence available in the form of multiple ER visits, EMS reports and hospital admissions to show a pattern of cyclical outbursts corresponding with her menstrual periods. This evidence would help validate her defense since it would be difficult to believe that a woman could suffer from such severe monthly symptoms, but have escaped presentation at hospitals, doctors' offices, or even police stations throughout her life. The issue as to whether she would bear some culpability for her actions, as she was well aware of her affliction with severe premenstrual psychosis but sometimes neglected taking her prescribed medications, is an interesting one. It is unclear how to deal with a defendant who is temporarily insane due to PMS. Commitment to an institution, as happens with many insanity acquittees, would be inappropriate for a woman with a history of premenstrual psychosis who may be completely asymptomatic throughout most of the menstrual cycle, but have dangerous flares at predictable intervals that may be effectively controlled under proper medical supervision. A commuted sentence involving a release contingent upon medical evaluation and treatment is most desirable in such cases.

Mrs. B. suffers from unusually severe premenstrual symptoms. Her case demonstrates the potentially debilitating nature of a syndrome that can render a sufferer unable to function effectively during critical times of the month. Mrs. B., however, is clearly the exception rather than the rule. Her example is in no way intended to support the contention that women have an excuse for monthly irrational behavior. Most women, on the contrary, would argue that despite monthly hormonal changes, they remain even-tempered, competent, effective, and reliable. Cases must be individually assessed and generalizations avoided when assessing the medical and legal effects of PMS.

Summary and Conclusions

The acceptance of premenstrual syndrome as a diagnostic entity has been controversial since the symptom cluster was identified 70 years ago. Standardized definitions and methodological advances have done much to bolster research in this field, but fundamental questions remain regarding prevalence, etiology, pathphysiology, and treatment. While mood symptoms are a prominent feature of the syndrome, psychosis is rarely reported and has not been listed as an associated symptom in the DSM.

PMS has found its way into the criminal justice system as a defense for some women who commit violent acts. Accepted as a mitigating factor in several cases in Great Britain, the defense has met primarily with failure in the United States.

When discussing PMS in the courts, it is important to note that there is wide heterogeneity in the symptoms a woman may experience premenstrually, ranging from heightened irritability to overt psychosis. Although vulnerability to stress may be increased, it seems unlikely that a woman experiencing the symptoms at the former end of this range would be able to prove that PMS prevented formation of the requisite intent for a crime. It, therefore, seems unlikely, as well as inappropriate, that a woman could use PMS as a complete defense in such instances. She might argue instead that, because of premenstrual emotional symptoms, she behaved in an uncharacteristic way and that PMS should be regarded as a mitigating factor in her sentencing.

At the latter end of the range, a psychotic individual may realistically face exculpation if it can be shown that the psychosis precluded appreciation of the criminality of the act or formation of the requisite intent. This is so no matter what the cause of the psychosis, be it related to menstruation, schizophrenia, or anything else. Because premenstrual psychosis is such a rare diagnosis, however, the burden of proving insanity in such instances may be especially difficult, as many may be unfamiliar with the diagnosis or question its veracity.

As a defense strategy, insanity is always difficult to prove. In spite of the public perception and ongoing debate by legal scholars driven by sensational cases in the media, the defense is seldom successful, accounting for only a fraction of one percent of all felony cases (42).

Strict criteria are required to establish the insanity defense. With the possible exception of *Craddock*, the cases presented do not meet the minimal standards. Based on the information available concerning the Craddock case, this woman had a clear history of violent acts related to her menses. The acts were of an irrational and senseless nature, and without evidence of premeditation or deliberation. Furthermore, once recovered, she was amnestic for the events involved in each outburst. Prison guards objectively observed her to undergo significant behavioral changes in monthly cycles, and, with hormonal treatment, the behavior ceased.

In each of the other cases, the facts are less convincing, and a rational mind may see the linear couse of events leading each woman to her violent act—a scorned wife drives into her husband follow-

ing an argument, a frazzled mother strikes her child, etc. Each of these women seems to have snapped under stress, their vulnerability to each particular stimulus perhaps increased by PMS. In these cases, a substantive defense such as insanity seems grossly inappropriate, although a defense of diminished capacity is more plausible. A defendant is still labelled a criminal, still receives a criminal record, and still must deal with the resultant societal stigmatization when diminished capacity is successfully utilized. Diminished capacity does, however, seem to represent an acceptable compromise between those who believe that the PMS defense has absolutely no place in the criminal justice system, and those who do.

The potential for exploitation of the PMS defense is high. Even Dr. Katharina Dalton, the expert witness in each of the British cases presented, urged skepticism towards any woman claiming PMS in her defense (40).

Feminists fear that each "win" for PMS in the courts sets the woman's movement back a step. Each time the defense is accepted, it lends creedence to the characterization of women as creatures driven by hormonal whims. With menstruation a natural event in a women's reproductive physiology, and the prevalence and symptoms ascribed to PMS so broad, cynical minds may see it as providing an excuse for any irrational behavior. Similarly, it may provide society with an excuse for withholding certain responsibilities from women. Nevertheless, some women have clear changes in mood and behavior associated with their menses, and to fail to acknowledge this would be a disservice, perhaps, diverting research dollars from further study and setting the stage for unfair treatment in the courts. This dilemma highlights the importance of the medical community maintaining strict criteria in distinguishing between legitimate sufferers of unusually incapacitating PMS symptoms and the majority of women in society.

A clinician called upon to provide expert testimony in a PMS case must perform a careful assessment that involves both a detailed interview and examination of the defendant and a thorough review of the prosecutor's file including police, witness, and victim reports. A review of past psychiatric records is crucial, noting whether the defendant has suffered from known perceptual disturbances, such as hallucinations or delusions, that may relate to the current crime. An interview of the defendant should not only screen for Axis I and II disorders, but also give focused attention to issues of motive, premeditation, efforts at cover-up, lying or truthfulness and expression of guilt or remorse. For PMS to be used as a defense, there should be evidence that a woman suffers from PMS to a significant degree, indicating cyclically criminal, violent, or other aberrant behavior present only during the premenstruum over an extended period of time. If such evidence is convincingly offered, the court may recognize PMS as a mitigating factor, lessen the charge and mandate treatment and probation. This appears to be in the best interest of society, as it keeps a watchful eye on the offender to deter further criminal acts, keeps these women out of our overcrowded prisons, and ensures necessary medical supervision.

References

1. Rodin M. The social construction of premenstrual syndrome. Soc Sci Med 1992;35(1):49–56.
2. Gitlin MJ, Pasnau, RO. Psychiatric syndromes linked to reproductive function in women: a review of current knowledge. Am J Psychiatry 1989;146(11):1413–22.
3. Hamilton JA, Parry BL, Alagna S, Blumenthal S, Herz E. Premenstrual mood changes: a guide to evaluation and treatment. Psychiatric Annals 1984;14(6):426–34.
4. Osofsky HJ, Keppel W, Kuczmierczyk AP. Evaluation and management of premenstrual syndrome in clinical psychiatric practice. J Clin Psychiatry 1988;49(12):494–8.
5. Harrison WM, Endicott J, Rabkin J, Nee J, Sandberg D. Treatment of premenstrual dysphoria with alprazolam and placebo. Psychopharmacol Bull 1987;23:150–3.
6. Abramowitz ES, Baker AH, Fleischer S. Onset of depressive psychiatric crises and the menstrual cycle. Am J Psychiatry 1982;139(4): 475–8.
7. Rubinow DR, Roy-Byrne P. Premenstrual Syndromes: overview from a methodologic perspective. Am J Psychiatry 1984;141:163–72.
8. Endo M, Diaguji M, Asano Y, et al. Periodic psychosis occuring in association with the menstrual cycle. J Clin Psychiatry 1978;39: 456–66.
9. Korzekwa MI, Steiner M. Premenstrual syndromes. Clin Obstet Gynecol 1997;40(3):564–76.
10. Parry BL. Psychobiology of premenstrual dysphoric disorder. Seminars in Reproductive Endocrinology 1997;15(1):55–68.
11. Diegoli MS, da Fonseca AM, Diegoli CA, Pinotti JA. A Double-blind trial of four medications to treat severe premenstrual syndrome. Int J Gynaecol Obstet 1998;62(1):63–7.
12. Freeman EW, Rickels K, Sondheimer SJ, Polansky M. A double-blind trial of oral progesterone, alprazolam, and placebo in treatment of severe premenstrual syndrome. JAMA 1995;274(1):51–7.
13. Wang M, Hammarback S, Lindhe BA, Backstrom T. Treatment of premenstrual syndrome by spironolactone: a double-blind, placebo-controlled study. Acta Obstet Gynecol Scand 1995;74(10):803–8.
14. Thys-Jacob S, Starkey P, Bernstein D, Tian J. Calcium carbonate and the premenstrual syndrome: effects on premenstrual and menstrual symptoms. Am J Obstet Gynecol 1998;179(2):444–52.
15. Colloquim: Gender, law and health care: premenstrual syndrome: the debate surrounding criminal defense. 54 Maryland Law Review 571 (1995).
16. Dennerstein L, Judd F, Davies B. Psychosis and the menstrual cycle. Med J Aust 1983;1:524–6.
17. Severino SK, Yonkers KA. A literature review of psychotic symptoms associated with the premenstruum. Psychosomatics 1993;34(4):299–306.
18. Kraepelin E. Dementia Praecox and Paraphrenia, translated by Barclay RM. New York: Robert E. Krieger Publishing, 1971.
19. Altschule MD, Brem J. Periodic psychosis of puberty. Am J Psychiatry 1963;119:1173–8.
20. Felthous AR, Robinson DB, Conroy RW. Prevention of recurrent menstrual psychosis by an oral contraceptive. Am J Psychiatry 1980;137(2): 245–6.
21. Brockington IF, Kelly A, Hall P, Deakin W. Premenstrual relapse of puerperal psychosis. J Affect Disord 1988;14:287–92.
22. Gerada C, Reveley A. Schizophreniform psychosis associated with the menstrual cycle. British J of Psychiatry 1988;152:700–2.
23. Schenck CH, Mandell M, Lewis GM. A case of monthly unipolar psychotic depression with suicide attempt by self-burning: selective response to bupropion treatment. Compr Psychiatry 1992;33(5):353–6.
24. Lovestone S. Periodic psychosis associated with the menstrual cycle and increased blink rate. Br J Psychiatry 1992;161:402–4.
25. Korhonen S, Saarijarvi S, Aito M. Successful estradiol treatment of psychotic symptoms in the premenstrual phase: a case report. Acta Psychiatr Scand 1995;92:237–8.
26. Hopker SW, Brockington IF. Psychosis following hydatidiform mole in a patient with recurrent puerperal psychosis. Br J Psychiatry 1991;158: 122–3.
27. Raging hormones. The New York Times 1982 Jan 11; Sect. A:18.
28. Oleck HL. Legal aspects of premenstrual tension. International Record of Medicine and General Practice Clinics 1953;166:492–501.
29. Benedek EP. Premenstrual syndrome: a view from the bench. J Clin Psychiatry 1988;49(12):498–502.
30. Carney RM, Williams BD, Note, Criminal Law - Premenstrual syndrome: a criminal defense. 59 Notre Dame L Rev 253 (1983).
31. Press MP, Note, Premenstrual stress syndrome as a defense in criminal cases. Duke L J 176 (1983).
32. Keye WR. The Premenstrual Syndrome. Philadelphia: W.B. Saunders Company, 1988.
33. Spiegel AD. Temporary insanity and premenstrual syndrome: medical testimony in an 1865 murder trial. NY State J of Med 1988;Sept 1988: 482–92.
34. *People v Santos*, King's County Criminal Court Docket Number IK046229, 1982.

35. Denno DW. Symposium: Gender issues and the criminal law: gender, crime, and the criminal law defenses. J Crim Law Criminol 1994;85:80–169.
36. Defense linked to menstruation dropped in case. The New York Times 1982 Nov 4; Sect. A:12.
37. *Lovato v Irvin,* United States Bankruptcy Court for the District of Colorado, 82 B 01368 J, 1983.
38. *Commonwealth v Richter,* Fairfax County General District Court Docket Number T90-215256, 1991.
39. Sommer B. PMS in the courts: are all women on trial? Psychology Today 1984;18:36–8.
40. Dalton K. Cyclical criminal acts in premenstrual syndrome. Lancet 1980;2:1070–1.
41. Brahams D. Premenstrual syndrome: a disease of the mind? Lancet 1981 Nov;28:1238–40.
42. Insanity Defense Work Group: American Psychiatric Association statement on the insanity defense. Am J Psychiatry 1983;140(6):681–8.

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