Original contribution

Trauma and PTSD – An overlooked pathogenic pathway for Premenstrual Dysphoric Disorder?

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Summary

Background: A recent epidemiological analysis on premenstrual dysphoric disorder (PMDD) in the community revealed increased rates of DSM-IV posttraumatic stress disorder (PTSD) among women suffering from PMDD.

Aims: To explore whether this association is artifactual or might have important pathogenic implications.

Methods: Data come from a prospective, longitudinal community survey of an original sample of N = 1488 women aged 14–24, who were followed-up over a period of 40 to 52 months. Diagnostic assessments are based on the Composite International Diagnostic Interview (CIDI) using the 12-month PMDD diagnostic module. Data were analyzed using logistic regressions (odds ratios) and a case-by-case review.

Results: The age adjusted odds ratio between PTSD and threshold PMDD was 11.7 (3.0–46.2) at baseline. 10 women with full PTSD and at least subthreshold PMDD were identified at follow-up. Most reported an experience of abuse in childhood before the onset of PMDD. Some had experienced a life-threatening experience caused by physical attacks, or had witnessed traumatic events experienced by others. 3 women reported more than one traumatic event.

Conclusions: A case-by-case review and logistic regression analyses suggest that women with traumatic events and PTSD have an increased risk for secondary PMDD. These observations call for more in-depth analyses in future research.

Keywords: Premenstrual Dysphoric Disorder; Posttraumatic Stress Disorder; traumatic events; comorbidity; epidemiology.

Introduction

The existence of cyclically recurring premenstrual symptoms of clinical significance has been recognised for decades, and has been labelled premenstrual syndrome (PMS). Subsequent studies in clinical settings and a few in the community have underlined that PMS symptoms are widespread, with significant attendant clinical, public health and socio-economic implications. (Logue and Moos, 1988; Woods et al., 1982). More stringent attempts to define and operationalize diagnostic criteria for severe premenstrual conditions, however, have been a more recent event. The revised 3rd edition of DSM (DSM-III-R; APA, 1987) suggested in its appendix for conditions requiring further study, the category of late luteal phase dysphoric disorder (LLPDD) for severe forms of PMS with criteria predominantly characterized by mood symptoms. In DSM-IV (APA, 1994) the diagnosis was retained under the name “Premenstrual Dysphoric Disorder (PMDD) in the appendix, with more refined and slightly different criteria along with the suggestion to diagnose and code this condition as “depressive disorders not otherwise specified”.

Despite an abundance of clinical research on premenstrual and menstrual symptoms, there are only few reliable and comprehensive epidemiological data available that do provide estimates about the prevalence, incidence, risk factors and correlates of both LLPDD and PMDD in the community and in clinical settings. In particular, data on patterns of comorbidity are rare. Most of the available epidemiological evidence is confined to numerous studies that used questionnaire data to describe the frequency and the type of PMS symptoms as well as selected correlates in both adolescent and
adult women (Van Keep and Lehert, 1981; Logue and Moos, 1986; Johnson, 1987; Johnson et al., 1988; Cleckner-Smith et al., 1998; Monagle et al., 1993; Ramcharan et al., 1992). Despite considerable variation in instruments, sampling and design of these studies, there is considerable evidence that the vast majority of women have at least some PMS symptoms. Yet, the prevalence of more severe PMS symptoms seems to be considerably lower. Estimates for variably defined severe PMS symptomatology vary between 1% and 9%. There are three community studies available that have used stricter epidemiological standards concerning PMS as a syndrome and that have provided prevalence estimates for clinically relevant PMS conditions. Results from the Zurich cohort studies (Merikangas et al., 1993; Angst et al., 2001) suggest that according to their study instrument 8.1% could be regarded as having severe and 13.6% as having moderate perimenstrual syndromes in their community cohort of 299 women, aged 21 to 35. Deuster et al. (1999) have performed the most powerful survey in the community to date. Using telephone interview survey data incorporating the administration of the Menstrual Distress Questionnaire in a sample of 874 women in Virginia, US, they reported a cross-sectional prevalence of 8.3% (95 confidence interval 6.4%–10.2%) for females aged 18–44. This study is also the only one examining associations between a number of social and behavioural factors including nutritional, physical exercise, stress and affective state. The third and the most recent study is the Early Developmental Stages of Psychopathology Study (EDSP), a prospective-longitudinal community survey in Munich, Germany (Wittchen et al., 2002).

Findings from the EDSP revealed a 12-month prevalence of 5.8% of DSM-IV PMDD and an additional 18.6% with “near-threshold” PMDD among younger women aged 14–24 years old at baseline. The cumulative incidence after 42 months was 7.4%. 12-month and lifetime comorbidity of PMDD with other mental disorders namely anxiety disorders 47.4%, mood disorders 22.9%, somatoform disorders 28.4% were high and the unexpectedly strong association between postraumatic stress disorder (PTSD) and PMDD was particularly noteworthy. Because of the strength of this association and the potential pathogenic implications, the present study will explore this association in greater detail, by examining:

1. whether this association is artifactual and
2. the temporal patterns of PMDD and PTSD by means of case-by-case review.

**Methods**

The Early Developmental Stages of Psychopathology Study (EDSP) has been described in greater detail elsewhere (Lieb et al., 2000; Wittchen et al., 1998a, b). Briefly, the study is based on a 4-year prospective-longitudinal design with up to three assessment points (approximately 20 months apart). As part of a representative community sample of N = 3021, adolescents and young adults living in the Munich area, at baseline (T0) in 1995, N = 1488 females aged 14 to 24 years were enrolled. For all subjects written informed consent was obtained.

Due to the requirement of stable menstruation patterns, only 1091 (73.3%) women completed the PMS assessment at baseline (T0). At the first follow-up (T1), only the younger cohort aged 14–17 at baseline was contacted. N = 586 (99.2%) out of the total of 591 females completed the PMS assessment. At the second follow-up (T2), among all baseline participants recontacted, N = 1233 (99.5%) out of 1251 women completed the PMS assessment an average of 42 months after T0. Baseline and follow-up sociodemographic characteristics of this representative German community sample have been reported in the previous PMDD-paper (Wittchen et al., 2002).

**Assessment of adolescents and young adults**

In all three waves of investigation, symptom and diagnostic assessment were based on the computer-assisted version of the Munich-Composite International Diagnostic Interview (M-CIDI; Wittchen and Pfister, 1997). The M-CIDI allows for the standardized assessment of symptoms, syndromes and diagnoses of a wide range of DSM-IV substance use and mental disorders along with information about onset, duration, clinical and psychosocial severity. Detailed information of the M-CIDI has already been described elsewhere (Wittchen et al., 1998a). Detailed analyses covering validity and reliability of single diagnostic criteria and age-, frequency- and quantity-information have also been provided elsewhere (Reed et al., 1998; Wittchen et al., 1998b). In the baseline investigation, the lifetime version of the M-CIDI was used to assess lifetime and 12-month information. For the two follow-up investigations, the M-CIDI was modified to cover the 12-month period prior to the follow-up interview as well as the remaining interval between the investigations (12-month-interval-version).

**Assessment of PTSD**

Posttraumatic stress disorder as well as all other disorders is defined here as one meeting DSM-IV criteria per the M-CIDI diagnostic algorithm. Details have been presented elsewhere (Perkonigg et al., 2000). Briefly, to match DSM-IV criteria and to take into account more recent methodological innovations, the PTSD module consisted of a screening question and a respondent list with 10 groups of specified events, an open-ended question about any other traumatic events to avoid speaking about embarrassing and stigmatising traumas, a question for each event for the DSM-IV A2 criterion (intense fear, helplessness, or horror) and further probing for the most severe events as well as linkages between events. The latter was used to

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1 The complete M-CIDI is available on request.