The effect of premenstrual symptoms on activities of daily life

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Objective: To assess impact of premenstrual symptoms on activities of women's daily lives (ADL).
Design: Cross-sectional population-based survey.
Setting: Market research company.
Patient(s): A total of 4,085 women aged 14–50 years recruited by random telephone digit dialing in France, Germany, Hungary, Italy, Spain, the United Kingdom, Brazil, and Mexico.
Intervention(s): None.
Main Outcome Measure(s): A telephone interview checklist of 23 premenstrual symptoms, sociodemographic and lifestyle variables, and ADL effects (global question and seven areas). Stepwise regression measured the effect of premenstrual symptoms and sociodemographic factors on ADL.
Result(s): Symptoms and symptom domains (physical and mental) had similar negative effects on ADL. Activities of daily life were predominantly affected by symptom severity. Income level, age, and country also significantly affected ADL. In all, 2,638 women (64.6%) were minimally affected in ADL, 981 (24%) were moderately affected, and 454 (11.1%) were severely affected.
Conclusion(s): Both physical and mental premenstrual symptoms have significant impact on quality of life, assessed as ADL. Up to 35% of women of reproductive age in Europe and Latin America were moderately or severely affected in ADL by cyclical premenstrual symptoms. (Fertil Steril® 2010;94:1059–64. ©2010 by American Society for Reproductive Medicine.)

Key Words: Premenstrual symptoms, quality of life, activities of daily life, epidemiology

Diagnostic criteria for a form of premenstrual syndrome (PMS) have been proposed by both psychiatrists (1) and gynecologists (2). The main differences between these classificatory systems are the requirements as to the number of symptoms present premenstrually and the number or duration of menstrual cycles affected. The American College of Obstetricians and Gynecologists (ACOG) requires at least one mood and one physical symptom to be present during the 5 premenstrual days for at least three menstrual cycles.

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The *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) requires for premenstrual dysphoric disorder (PMDD) at least five premenstrual symptoms during 1 week, one of which must be a mood symptom, and that symptoms should be present in most cycles in the last 12 months. Both ACOG and DSM-IV require that symptoms are present in the week before menses and that they remit within a few days of onset of the menses. Confirmation of symptoms by prospective daily ratings for at least two menstrual cycles is required. Both classificatory systems require that symptoms impact on a sphere of women's lives, such as work, studies, usual activities, or relationships. The DSM-IV diagnostic system of PMDD has been accepted by regulators, such as the U.S. Food and Drug Administration.

Although there has been much controversy in the literature about aspects of these diagnostic systems, such as the requirement for prospective daily rating or the number and type of symptoms that should be required, there has been consensus that premenstrual symptoms do impact on women's lives (3–6). Freeman (7) recommended that impairment in one or more aspects of daily functioning provides a diagnostic tool for determining the severity of the problem.

She notes that many women who do not meet the PMDD criteria seek treatment for premenstrual symptoms that disrupt their lives.

The objective of the present study was to assess the impact of premenstrual symptoms on these activities of women's daily lives. The following research questions are relevant.

Effect of Symptoms on Activities of Daily Life

Premenstrual syndrome is characterized by many different symptoms. Do these symptoms equally affect activities of daily life (ADL), or is there a subset of symptoms with a particularly important impact? Using the same data set, we have already shown that premenstrual symptoms can be divided into two main domains and five dimensions on cluster analysis (Dennerstein et al., unpublished data). Do these domains/dimensions have the same impact on ADL? Is the relationship between symptoms and ADL significant? Is this relationship linear?

Factors Associated with Impact of Symptoms on ADL

This section seeks to establish which sociodemographic and lifestyle variables influence the effect of premenstrual symptoms on ADL.

Clinical Relevance of Effect of Perceived Symptom Severity on ADL

Not all women will experience a significant effect of premenstrual symptoms on ADL. We seek to establish whether we can statistically define mild, moderate, and severe effects.

MATERIALS AND METHODS

Design

During June and July 2003, computer-assisted telephone interviews consisting of a series of questions about premenstrual symptoms were conducted with 4,085 women of reproductive age in European countries (Germany, n = 531; Italy, n = 505, France, n = 501; United Kingdom [UK], n = 500; Spain, n = 500; Hungary, n = 500) and Latin American countries (Brazil, n = 548; and Mexico, n = 500).

Institutional review board approval was not sought because this was a questionnaire survey with no intervention. Women were asked to consent verbally to answer questions in the telephone-administered survey about their menstrual cycle experience. All results were stored without any identification data.

Subjects

On the basis of government national statistics in each country, a representative sample of women aged 14–49 years (16–49 years in France and the UK), who were not pregnant at the time of the interview, were randomly recruited according to demographic quotas, primarily for age and secondarily for region (urban or rural) and education (data sources for random recruitment: Media-Analyse 2002 Pressemedien and Statistisches Bundesamt [Germany]; Census 2001/ National Statistics and Labour Force Survey, Autumn 2002 [UK]; 1999 [France]; Estudio General de Medio 2002 [Spain]; Istituto Nazionale di Statistica Census 2001 [Italy]; Hungarian Central Statistical Office Census 2001 [Hungary]; Brazilian Institute of Geography and Statistics Census 2002 and Callbus AC Nielson Omnibus [Brazil]; Instituto Nacional de Estadística, Geografía e Informática Census 2000 [Mexico]). Recruitment was based on telephone calls using numbers derived from different sources (Germany: ADM-Telefonstichprobe; UK: white pages; Spain: CETESA telephone directories; Italy: Italy Phone Database; Brazil: yellow pages; Hungary: database of all private telephone subscribers of Hungary; France: data file from France Telecom; Mexico: phone book). No information is available on response rates.

Questionnaire

Consenting women participated in telephone interviews conducted by pretrained female interviewers; interviews lasted approximately 10 minutes for women with no premenstrual symptoms and 30 minutes for those women who had experienced premenstrual symptoms. Participating women did not receive any payment for completing the survey.

The women who were currently taking prescription or nonprescription medication that had been effective in reducing or relieving symptoms in the days before menses were asked about their symptoms "before starting medication." All other women were asked about their current symptoms.

Each woman was asked about symptom experience premenstrually, with use of a checklist of 23 symptoms (Table 1). The symptoms were those on the lists of the classificatory systems used in the diagnosis of PMDD according to DSM-IV and PMS according to the ACOG criteria (1, 2). To ensure that women were only referring to symptoms occurring in the days before their menstrual periods, symptom questions were introduced with the following statement: "In the following interview we would like to focus only on the symptoms which might occur within the days before your menstrual period starts and which disappear as soon as, or a few days after, the period begins." This point was reiterated with each question.

Women who reported that any premenstrual symptom did occur were asked (for each symptom) for information on symptom severity (mild, moderate, or severe) and duration of symptom (during how many of the menstrual cycles in the last 12 months she had experienced the symptom). The order of symptoms in each group was changed between interviews.

Women were asked to indicate the overall impact of symptoms on their daily life and then to indicate which of a list of ADL were affected by premenstrual symptoms. They were asked to indicate number of days affected on average for each menstrual cycle and whether there were any work absences in the last 3 months due to premenstrual symptoms.