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HOW MUCH DO CANADIAN SOCIAL WORKERS KNOW ABOUT PREMENSTRUAL SYNDROME AND PREMENSTRUAL DYSPHORIC DISORDER, AND DOES THIS AFFECT THEIR ASSESSMENT OF MOTHERS?

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See table of contents

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Article abstract

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Abstract: PMS and PMDD symptoms interfere in some women's daily coping abilities, including their mothering. Social workers assess mothering ability but may not understand the negative effects of PMS/PMDD. This study examines social workers' knowledge about PMS/PMDD and whether this influences their assessments with mothers, surveying 521 Canadian social workers. The Premenstrual Experience Knowledge Questionnaire (PEKQ) assesses the biopsychosocial aspects of premenstrual knowledge. Social workers scored an average of 60.5%. They were least knowledgeable about SSRI treatments, suicide rates, and symptoms. Higher scores were associated with having one's own premenstrual symptoms and PMS symptoms that interfered more in one's life. Only 5.1% of social workers addressed PMS/PMDD in their mothering assessments, with significant relationships between PMS/PMDD inquiry and worker age, knowledge scores, training, and personal premenstrual symptoms. These results can educate social workers, raising awareness of the possible negative impacts of PMS/PMDD on mothering, which could lead to changing their assessment practices and identifying these treatable conditions. This awareness-raising is especially critical when PMDD/PMS affects mothering to the degree that children's safety might be compromised.

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Keywords: Premenstrual Syndrome, Premenstrual Dysphoric Disorder, social work assessment, parenting, mothering

Abrégé : Les symptômes du syndrome prémenstruel et du trouble dysphorique prémenstruel interfèrent avec les capacités d'adaptation quotidiennes de certaines femmes, y compris leur rôle de mère. Les travailleuses sociales et travailleurs sociaux évaluent la capacité parentale des mères, mais peuvent ne pas comprendre les effets négatifs du syndrome prémenstruel et du trouble dysphorique prémenstruel. Cette étude examine les connaissances des travailleuses sociales et travailleurs sociaux sur le syndrome prémenstruel et le trouble dysphorique prémenstruel et détermine si ces connaissances influencent leurs évaluations auprès des mères, en interrogeant 521 travailleuses sociales et travailleurs sociaux canadien(ne)s. Le Questionnaire sur les connaissances relatives à l'expérience prémenstruelle (PEKQ) évalue les aspects biopsychosociaux des connaissances relatives à l'expérience prémenstruelle. Les travailleuses sociales et les travailleurs sociaux ont obtenu un score moyen de 60,5 %. Elles-ils étaient les moins bien informé(e)s sur les traitements par ISRS, les taux de suicide et les symptômes. Les scores les plus élevés étaient associés au fait d'avoir ses propres symptômes prémenstruels et aux symptômes du SPM qui interféraient davantage dans la vie de la personne. Seuls 5,1 % des travailleuses sociales et des travailleurs sociaux ont abordé le syndrome prémenstruel ou le trouble dysphorique prémenstruel dans leurs évaluations du des capacités parentales des mères, avec des relations significatives entre l'enquête sur le syndrome prémenstruel ou le trouble dysphorique prémenstruel et l'âge du de la travailleuse sociale ou du travailleur social, les scores de connaissances, la formation et les symptômes prémenstruels personnels. Ces résultats peuvent sensibiliser les travailleuses sociales et les travailleurs sociaux aux effets négatifs possibles du syndrome prémenstruel et du trouble dysphorique prémenstruel sur le rôle de mère, ce qui pourrait les amener à modifier leurs pratiques d'évaluation et à identifier ces affections qui peuvent être traitées. Cette sensibilisation est particulièrement importante lorsque le TDP/SPM affecte la capacité parentale de la mère au point de compromettre la sécurité des enfants.

Mots-clés : syndrome prémenstruelle, trouble dysphorique prémenstruel, évaluation en travail social, rôle de parent, rôle de mère

DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

SOCIAL WORK INTERVENTIONS IN FAMILY SUPPORT and child protection contexts tend to focus primarily on mothers, due to society's perceptions of women's responsibilities and roles as mothers (Lapierre & Côté, 2011). Over the last century, assessments of mothers have largely focused on child development and the parent – child relationship (Platt & Riches, 2016; Woodcock, 2003). Social workers assess mothers' parenting capacities in both voluntary and involuntary contexts ranging from clinical settings and family support (Shears et al., 2008) to child protection (Campbell et al., 2017). However, the extent to which social workers know about the possible negative impacts of premenstrual symptoms on mothering is unknown.

Women's mothering may be hampered by two types of premenstrual experiences: Premenstrual Syndrome (PMS) and the more severe Premenstrual Dysphoric Disorder (PMDD) (Pearlstein & Steiner, 2008; Slade et al., 2009). Severe premenstrual symptoms are debilitating for some women, seriously compromising their quality of life and their daily functioning (Chin & Nambiar, 2017; Yamada & Kamagata, 2017). The periodic recurrence of physical, psychological, and behavioural changes in the luteal phase of the menstrual cycle affects more women and their families than any other medical condition (Campagne & Campagne, 2007), a fact that social workers assessing family functioning should understand.

Women's responses to premenstrual symptoms vary, but many find themselves irritable, angry, and moody in their family relationships, particularly with children and partners. Women may not recognize that their symptoms are related to their menstrual cycle and, thus, predictable. Knowledgeable social workers may serve a valuable role by asking mothers about patterns of symptoms and behaviour.

Few studies have focused specifically on the effects of PMS/PMDD on mothering. Tutty et al. (2022) reported a significant relationship between the severity of women's premenstrual symptoms and the high stress of parenting a young child, consistent with previous research (Rapkin & Winer, 2009; Robinson & Swindle, 2000; Ussher, 2004). Approximately 20% of these mothers resorted to physical discipline, which could have resulted in a child protection referral and assessment. Importantly, though, most of these mothers developed strategies to mitigate their parental stress during the premenstruum — the period that precedes menstruation — and, once their PMS symptoms had subsided, the women resumed their positive mothering behaviours (Tutty et al., 2022).

Nonetheless, inconsistent parenting styles expressed through conflicting moods, behaviours, and attitudes are generally associated with children's negative mental health (Dwairy, 2010; Yoshizumi et al., 2006). Mothers with PMS or PMDD often report sudden, dramatic mood shifts and, because children rarely are aware of the cyclical nature of these symptoms, they may find their mother's responses confusing

and difficult to comprehend. After the symptoms have passed, mothers often report feeling so guilty for their premenstrual parenting that they overcompensate by lavishing children with rewards and attention — further adding to the inconsistent parenting behaviour (Tutty et al., 2022). Not only is this potentially harmful to children, but the contrasts in mothering responses can be confusing for social workers conducting family assessments.

Women with Premenstrual Dysphoric Disorder (PMDD) are often faced with prejudices about the premenstrual phase (Janda et al., 2019), making it difficult for women who are desperate for answers about their own bodies (Bufanio, 2006). The differences in the legitimacy afforded PMS/PMDD can be an issue not only for those who suffer, but for professionals who work with them. An awareness of the social stigma associated with a contested illness such as PMS/PMDD contributes to women's reluctance to disclose or reach out for assistance. The possibility of being identified as an incompetent or inadequate mother, with the most serious consequence of having one's child taken into care, is a clear deterrent to disclosing any issue that could be construed as being a "bad mother." These fears particularly impact Black women, Indigenous women, and other women of colour, whose children are over-represented in the Canadian child protection system (King et al., 2017).

Since social work assessment involves collecting and analyzing information to best understand a family's situation and to recommend any further professional intervention (Woodcock, 2003), one might wonder about the extent to which social workers know about PMS and PMDD and whether they ask about premenstrual symptoms in their assessments with mothers. This is the focus of the current study, which addresses these questions using a biopsychosocial theoretical lens (Engel, 1977) to develop a survey for Canadian social workers with respect to their knowledge and practices with PMS/PMDD.

Premenstrual symptoms and their impact on women's functioning

PMS is broadly defined as the constellation of mild to moderate symptoms occurring only during the luteal phase of a woman's menstrual cycle (Biggs & Demuth, 2011; Shulman, 2010), meaning that these occur for up to 14 days before menses and subside with the onset of the menstrual period (Moline & Zendell, 2000; Santamaría & Lago, 2015). Between 20 to 40% of reproductive-aged women experience PMS symptoms (Lavu et al., 2017; Pearlstein & Steiner, 2008). More than 200 symptoms have been described in the literature, ranging from mild symptoms to those severe enough to interfere with daily life (Campagne & Campagne, 2007).

In 2013, PMDD was designated as a distinct category in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association [APA], 2013). The criteria for the classification of PMDD

requires that there be at least five predominantly affective symptoms with functional impairment, of which affective symptoms make up the largest proportion, such as mood swings, irritability, anger, and depressed mood (APA, 2013). PMDD differs from PMS in that the affective symptoms are more severe (Osborn et al., 2021) and there is significant impairment in interpersonal or workplace functioning (Freeman & Sondheimer, 2003; Hofmeister & Bodden, 2016). Between 3 to 9% of women suffer such adverse symptoms in their reproductive years (Freeman & Sondheimer, 2003).

The average woman suffering from PMDD experiences symptoms between seven to 14 days every month, amounting to a staggering 1,680 symptomatic days every decade (Freeman, 2001). Stoddard et al. (2007) concluded that with most women having between 400 and 500 menstrual cycles over their reproductive years, and with a conservative estimate of symptom duration of four to seven days, consistently symptomatic women may spend from four to 10 years of their lives in a state of compromised physical functioning or psychological wellbeing that can include mothering. In essence, women with PMDD who experience symptoms 14 days of every month spend virtually half their reproductive lives distressed and with seriously impaired functioning.

The burden and functional impairment associated with PMDD should not be underestimated (Reid & Soares, 2018). The burden of PMDD on health-related quality of life has been found to be greater than back pain and similar to type 2 diabetes, hypertension, osteoarthritis, and rheumatoid arthritis (Yang et al., 2008). PMDD has a similar burden comparable to that of a major depressive disorder (Halbreich et al., 2003; Yang et al., 2008).

For some women, PMDD symptoms significantly interfere with daily living, making it unbearable (Beddig et al., 2019). Women with PMDD may exhibit suicidal ideation, plans, and attempts (Prasad et al., 2021; Yan et al., 2021), independent of demographic covariates, social desirability, and psychiatric comorbidity (Osborn et al., 2021; Pilver et al., 2013). Wikman et al. (2022) reported that 40% of women with confirmed PMDD reported suicidal ideation, while Eisenlohr-Moul (2019) found that 30% of women with PMDD had attempted to end their lives. These significant symptoms, which affect mothers with PMDD more than mothers with milder PMS or no PMS symptoms, leave them much more vulnerable to personal and interpersonal difficulties during the premenstrual period.

The literature is approaching consensus that PMS and PMDD result from a) a differential sensitivity or vulnerability to the mood-perturbing effects of estrogen and progesterone fluctuations (Eisenlohr-Moul, 2021; Hantsoo & Epperson, 2015; Reid & Soares, 2018); and b) the dysregulated influence of sex hormones on central neurotransmitters of the brain, including serotonin (Epperson & Hantsoo, 2014; Gao et al., 2021).

With respect to treatment for PMS/PMDD, symptoms causing a major disruption to quality of life rarely respond to lifestyle modification alone and, if this is the sole approach used, effective therapy can be delayed (Reid, 2017). The most systematically studied treatments have been the correction of the neurotransmitter or neuro-steroid dysregulation with antidepressant medications, or the elimination of hormonal fluctuations by suppressing ovulation (Lanza di Scalea & Pearlstein, 2017). Selective serotonin reuptake inhibitors (SSRIs) are considered the first-line treatment (Hofmeister & Bodden, 2016; Rapkin & Lewis, 2013) because of their efficacy and tolerability. For many women, the revelation that their experiences may be caused by an undiagnosed medical condition has a significant impact on the understanding of their own identity (Osborn et al., 2021) and can lead to receiving life-changing treatment. However, some women may be unaware that their pattern of symptoms is consistent with those of a PMS or a PMDD diagnosis, or that medication may be valuable in reducing symptoms — factors with which social workers can assist if they understand the importance of PMDD/PMS to mothering.

The context of the current study

This study uses a biopsychosocial conceptual framework (Engel, 1977) to explore social workers' knowledge about premenstrual experiences and how that knowledge might affect their assessments with mothers. A biopsychosocial approach is intrinsic to social work and health (Zittel et al., 2002) and critical to understanding and assisting women with premenstrual symptoms (Hunter, 2007; Matsumoto et al., 2013; Zendehdel & Elyasi, 2018). When applied to the social work practice domains of engagement and assessment, a biopsychosocial perspective encourages workers to assume a wholistic perspective (Burns et al., 2019), which is particularly relevant in assessing mothers with PMS or PMDD.

Over 30 years ago, social workers Siegel (1987) and Coughlin (1990) maintained that, although social workers frequently worked with client systems affected by premenstrual syndromes, few addressed the issue of premenstrual distress because little information was available to guide their work. Coughlin (1990) called for social workers to recognize the premenstruum as a time of high stress for women, and she advocated for greater social work education on premenstrual experiences. Siegel (1987) claimed that social workers were unlikely to ask about premenstrual symptoms because they did not know enough about it and were not aware of the potential impact on women's parenting.

The issue of women's premenstrual experiences is still neglected in the social work literature 35 years later, despite the fact that many women report symptoms that interfere with their personal wellbeing and relationships with others. That so little research has focused on the effects of premenstrual symptoms on mothers' parenting is striking, especially

when these conditions can seriously affect mothering for at least a few days of the month. Further, do social workers understand that PMS and PMDD symptoms that can affect women's mothering do not necessarily reflect their typical parenting in non-premenstrual times? PMS and PMDD are largely treatable, so referrals to physicians could mitigate concerns about poor parenting and possible child abuse that could prompt intrusive child protection intervention.

Having identified the importance of PMS/PMDD in women's mothering, no one has yet explored the extent to which Canadian social workers know of this issue. As such, the current study seeks to answer the questions: What do social workers know about PMS and PMDD? And, is this knowledge associated with whether and what, in their assessment practices, they ask mothers about premenstrual symptoms?

Methods

Participants and recruitment

To answer the questions posed above, Canadian social workers whose professional role involved assessing the parenting skills of mothers were invited to answer a survey on PMS/PMDD. The study originally planned to target only child protection workers; however, challenges in obtaining permission from provincial ministries necessitated that the sample be broadened to include any social workers involved in assessing the parenting skills of mothers. In January 2013, invitations to participate were posted online through social work schools and popular social media sites, as well as in advertisements in social work magazines and newsletters. By the end of November 2013, 521 participants had responded.

Data collection methods

The original exploratory study used a mixed-methods approach including a survey (Hutson & Kolbe, 2010) designed to measure the biopsychosocial knowledge of social workers and follow-up qualitative interviews to seek social workers' views on the feasibility and challenges of including premenstrual inquiries in assessments with mothers. The quantitative data presented in the current analysis is drawn from a) a survey developed and administered to participants to assess the biological, psychological, and social aspects of premenstrual knowledge; and b) questions to identify the participant demographic variables noted above, including two contingency questions directed only to women asking (i) whether they had had PMS, and (ii) the degree to which it interfered in their daily living. The internet was the primary means used to promote the study, recruit the sample, and to distribute and receive the questionnaires.

The Premenstrual Experience Knowledge Questionnaire (PEKQ)

An existing, suitable measure of premenstrual knowledge could not be found, necessitating the first author to develop a questionnaire for this research, the Premenstrual Experiences Knowledge Questionnaire (PEKQ). The PEKQ consists of 20 knowledge items selected for their validation in the PMS/PMDD literature. The questionnaire had clear instructions, including the length of time anticipated to complete it, which was estimated at 10 minutes. The Cronbach's alpha is .68. Except for Item 2, all items significantly correlated with the corrected total score (range of .11 to .38). If the item was removed, the Cronbach alphas ranged from .65 to .69, still relatively close to the alpha for the total measure, suggesting strong internal consistency. Coefficient alpha is sensitive to scale length, and longer measures typically have lower alphas (DeVellis, 1991).

Using a biopsychosocial approach to assess premenstrual knowledge, the 20 PEKQ items were assigned to one of the following domains: 1) biological [age of onset; biological etiology; length of symptoms; PMS confirmation with blood test; 150 symptoms; the most severe symptoms being emotional or physical; efficacy of SSRIs for treatment; the exacerbation of headaches and physical illnesses]; 2) psychological [validity of PMDD as a DSM category; higher rate of suicide in the premenstruum; women's exaggeration of premenstrual symptoms; PMDD as a term for physical premenstrual symptoms; the positivity of symptoms for some women; and the incidence of severe symptoms]; and 3) social [PMS as a Western cultural phenomenon; the socialization of premenstrual symptoms; the impact of severe PMS on work and family; the historical dating of PMS; the stigmatization of premenstrual symptoms; the impact of premenstrual symptoms and parenting].

As recommended by DeVellis (1991) in reference to developing a new measure, 11 social work professionals not involved in the study were asked to independently assign the 20 items to the biological, psychological, or social domains. This process resulted in consensus on 15 of the 20 items, but disagreement on five items. When these five items were re-evaluated, two items (Question 9: Women tend to exaggerate how PMS affects them in a negative way; and Question 15: 3 to 9% of women have such severe PMS that they are not able to cope with daily life) were moved from the social domain to the psychological domain.

Predetermined response categories of "true," "false," and "don't know" were used to measure the knowledge of respondents. The readability of all the research documents was assessed at approximately a grade 12 level (Flesch-Kincaide Readability).

Procedures

Before administering the questionnaire to the target sample, a pilot study was conducted with a different convenience sample of eight child

protection workers to assess that the items were comprehendible and readable. This strategy helped ascertain whether the answers given by respondents were consistent with what was being measured (Fowler & Cosenza, 2009). No significant modifications were required.

The study received approval from the institutional review boards of Memorial University of Newfoundland. All participants gave informed consent and were advised that, although their participation was completely voluntary and confidential, we would be required by law to report any current child abuse that they disclosed. Data was collected with SurveyMonkey and was entered into SPSS Statistics (Versions 21–23) for analysis.

Data analysis

Pearson chi square tests were undertaken to determine whether age, sex, past PMS/PMDD training, personal premenstrual symptomology, and the degree of PMS/PMDD interference in daily life, were associated with inquiry about PMS/PMDD in assessment, with effect sizes calculated with Phi or Cramer's *V*. Effect sizes were interpreted using Rea and Parker's (1992) suggested benchmarks of under .10 as a "negligible" association; between .10 and under .20 as "weak"; between .20 and under .40 as "moderate"; and between .40 and under .60 as a relatively "strong" association (p. 203).

Scores on the PEKQ measure were compared to categorical variables of interest by t-tests or ANOVAs, with Cohen's *d* estimating the effect size. According to Cohen (1988), *d*'s of 0.2, 0.5 and 0.8 are the small, medium, and large reference values, respectively.

Results

The survey was answered by 521 Canadian social workers, although not all completed the entire questionnaire. The following section described the demographics of the study sample, scores on the 20-item PEKQ, and whether the workers inquired about PMS/PMDD.

Study demographics

As can be seen in Table 1, the majority of the study respondents were women (470 of 514 or 91.4%) and their primary self-identified racial background was white (452 of 515 or 87.8%). Social workers aged 31 to 45 comprised the largest proportion of respondents (39.8%), with another 38.1% aged 46 years and older. The sample were mostly well-educated, with almost half (257 of 517 or 49.7%) having BSW degrees and another almost third (165 or 31.9%) having completed graduate degrees. The social workers had mostly been employed for a number of years, with 70.8% having worked for over six years. With respect to their social work

roles (n = 518), more than half (273 or 52.7%) worked in general social work practice, 198 (38.2%) worked in child protection, and 39 (7.2%) were in non-clinical senior social work or academic positions. Of the 512 social workers who answered the item about training in premenstrual disorders, the majority (488 or 95.3%) had not received any training.

Of the female participants who responded about their own personal premenstrual experiences (n = 472), about one third (35.5%) had no symptoms or interference, almost a third (32.6%) had minimal interferences, and the final third (31.9%) had symptoms that moderately to severely interfered in their lives. Of the 186 respondents who responded to whether or not they had cohabited with a woman with PMS/PMDD, 134 (72%) indicated that they had a relatively high proportion, suggesting general awareness of the symptoms.

Table 1. *Study Sample Demographics (N = 521).*

Variable	Category	Number (%)
Sex (n = 514)	Female	470 (91.4%)
	Male	44 (8.6%)
Racial background (n = 515)	White	452 (87.8%)
	Indigenous (Aboriginal, Métis, or Inuit)	36 (7.0%)
	Visible Minority	27 (5.2%)
Age (n = 518)	30 and younger	115 (22.2%)
	31-45 years	206 (39.8%)
	46 and older	197 (38.1%)
Education (n = 517)	High school only	11 (2.1%)
	2-year college diploma/undergraduate	84 (16.2%)
	BSW degree	257 (49.7%)
	Graduate degree (MSW or other)	165 (31.9%)
Years employed as a social worker (n = 514)	0-5 years	150 (29.2%
	6-15 years	181 (35.2%)
	15 years or more	183 (35.6%)
Social work role (n = 518)	Child protection	198 (38.2%)
	General SW practice	273 (52.7%)
	Senior SW/academic/researcher	39 (7.5%)
	Other/unemployed	8 (1.5%)
I have taken training about women's experiences with PMS? (n = 512)	Yes	488 (95.3%)
	No	24 (4.7%)
Personal experience with PMS/PMDD? (n = 472)	Yes	379 (80.3%)
	No	93 (19.7%)
Extent to which PMS interfered (n = 423)	No symptoms/interference	150 (135.5%)
	Little/sometimes interferes	138 (32.6%)
	Moderate/Severe interference	135 (31.9%)
Ever cohabited with a woman with PMS/PMDD? (n = 186)	Yes	134 (72%)
	No	

Social workers' knowledge of PMS/PMDD

The 20-item PEKQ was completed by 515 participants. The average total score of the total PEKQ scores was 12.1 ($SD = 3.33$) with a range of 1 to 20 (60.5%). As can be seen in Table 2, the PMS knowledge items correctly endorsed by the majority of the respondents were a) the age of PMS onset; b) the exacerbation of physical illnesses and headaches by PMS symptoms; c) women only having problems because they have been socialized to expect symptoms; and d) PMS symptoms existing for a duration of two weeks for some women. There was no significant difference between the total PEKQ scores based on the racial backgrounds of the social workers ($F = 0.77$; $p = .46$), or gender ($t = .40$; $p = .69$). The three items about which social workers had the least knowledge (inaccurate and don't know responses) included a) not knowing the effectiveness of SSRI treatments; b) the higher risk of suicide for women with PMDD; and c) the extensive number of symptoms associated with PMS/PMDD.

In addition to the total knowledge scores, the research sought to ascertain what social workers know in the biological, psychological, and social domains. The highest knowledge scores were in the social domain, with an average of 69.9% items correct, followed by the biological and psychological domains, both having an average correct score of 56.9%, suggesting the need to educate workers in all three realms, but particularly with respect to biological and psychological issues related to PMS/PMDD.

Female and male social workers did not differ on their PEKQ scores ($t(514) = 0.35$, $p = 0.35$); however, women who had had PMS/PMDD ($n = 373$) had significantly higher PEKQ scores than those with no PMS/PMDD ($n = 86$) ($t(458) = 2.1$, $p = .04$; Cohen's $d = .29$, a small effect). Additionally, those whose premenstrual symptoms interfered in their daily lives the most had higher PEKQ scores ($F(2, 423) = 8.46$, $p < 0.001$, $\text{eta}^2 = .039$).

A one-way ANOVA concluded that that age was not significantly associated with PEKQ scores ($F(2, 518) = 0.41$, $p = 0.96$). With respect to the number of years worked by a social worker, there was no significant effect on PEKQ scores ($F(2, 503) = 0.50$, $p = .63$), nor was social work role associated with PEKQ scores ($F(3, 517) = .43$, $p = .73$). The small number of social workers who had received premenstrual training (24 or 4.7%) did not have significantly higher PEKQ scores compared to those with no training ($t(510) = 1.1$, $p = 0.14$ n.s.), which raises questions about the training, suggesting conducting evaluations of any PMS educational offerings.

Inquiring about PMS/PMDD in social work assessments

Regarding whether social workers asked the mothers with whom they work about PMS/PMDD, only 26 of 508 (5.1%) ever ask women about their premenstrual experiences, while the majority of respondents

Table 2. *Responses by Questionnaire Item (N = 521).*

Item #	Questionnaire Item	Domain	Correct Answer	Sample Size	Correct Responses	Don't Know	Incorrect	Total Incorrect & Don't Know
1	PMS generally starts when a woman is over the age of 45 years.	Bio	F	520	481 (92.5%)	14 (2.7%)	25 (4.8%)	39 (7.5%)
2	When women have PMS, the causes are mainly related to their biology.	Bio	T	519	277 (53.4%)	83 (16.0%)	159 (30.6%)	242 (46.6%)
3	Usually, only women in Western cultures have severe PMS symptoms.	Social	F	516	292 (56.6%)	169 (32.8%)	55 (10.7%)	224 (43.4%)
4	For some women, distressing PMS symptoms can last up to two weeks per month.	Bio	T	517	428 (82.8%)	59 (11.4%)	30 (5.8%)	89 (17.2%)
5	Women have problems with PMS only because they have been socialized to expect symptoms.	Social	F	514	460 (89.5%)	32 (6.2%)	22 (4.3%)	54 (10.5%)
6	There is a psychiatric category in the DSM for severe PMS.	Psych	T	518	245 (47.3%)	221 (42.7%)	52 (10.0%)	273 (52.7%)
7	Suicide occurs more in women with severe PMS in the last two weeks before their period than in women without symptoms.	Psych	T	519	152 (29.2%)	334 (64.4%)	33 (6.4%)	367 (70.8%)
8	Severe PMS can be confirmed with a blood test.	Bio	F	519	181 (34.9%)	291 (56.1%)	47 (9.1%)	338 (65.1%)
9	Women tend to exaggerate how PMS affects them in a negative way.	Psych	F	517	392 (75.8%)	51 (9.9%)	74 (14.3%)	125 (24.2%)
10	Premenstrual Dysphoric Disorder (PMDD) is a term for women with physical symptoms only.	Psych	F	517	283 (54.7%)	212 (41.0%)	22 (4.3%)	234 (45.3%)

11	There are over 150 different types of PMS symptoms.	Bio	T	513	154 (30.0%)	326 (63.5%)	33 (6.4%)	359 (69.9%)
12	Women with severe PMS find their work and family lives most affected.	Social	T	517	437 (84.5%)	61 (11.8%)	18 (3.5%)	79 (15.3%)
13	Premenstrual symptoms in women have been described as far back as 300 BC in the writings of Hippocrates and Aristotle.	Social	T	519	209 (40.3%)	300 (57.8%)	10 (1.9%)	310 (59.7%)
14	Some women feel positive before they get their period.	Psych	T	518	352 (68.0%)	128 (24.7%)	38 (7.3%)	166 (32.0%)
15	3 to 9% of women have such severe PMS that they are not able to cope with daily life.	Psych	T	519	345 (66.5%)	164 (31.6%)	10 (1.9%)	174 (33.5%)
16	The physical symptoms of PMS usually bother women more than the emotional symptoms.	Bio	F	517	324 (62.7%)	131 (25.3%)	62 (12.0%)	193 (37.3%)
17	The most effective treatment for severe PMS is SSRI anti-depressants.	Bio	T	515	45 (8.7%)	313 (60.8%)	157 (30.5%)	470 (91.3%)
18	Most women with severe PMS do not feel stigmatized because symptoms are a normal part of menstruation.	Social	F	513	366 (71.3%)	89 (17.3%)	58 (11.3%)	147 (28.7%)
19	Some women with severe PMS have problems parenting their children.	Social	T	519	401 (77.3%)	95 (18.3%)	23 (4.4%)	118 (22.7%)
20	Physical illnesses and headaches can get worse when a woman has PMS.	Bio	T	518	465 (89.8%)	49 (9.5%)	4 (0.8%)	53 (10.2%)

(482 or 94.9%) did not. Social workers who ask about PMS/PMDD had significantly higher premenstrual knowledge scores than those who did not ($t(509) = 7.09$, $p < 001$; Cohen's $d = .96$, a large effect). Older social workers were significantly more likely to ask women about PMS/PMDD than younger social workers ($\chi^2 = 14.9$, $p < 01$; Cramer's $V = .17$, a negligible effect). Although only 4.7% (n = 24) of the 512 social workers had received any training in PMS, those with training were more likely to ask mothers about PMS/PMDD, ($\chi^2 = 22.69$, $p < 0.001$; phi coefficient of .21, a weak effect).

However, inquiring about premenstrual symptoms was not associated with a) social work role ($\chi^2 = 3.1$, $p = .38$, n.s); b) having PMS symptoms themselves ($\chi^2 = .03$, $p = .86$, n.s); c) PMS symptoms that interfered in their daily lives ($\chi^2 = 2.52$, $p = .27$, n.s.); or d) sex ($\chi^2 = 0.018$, $p = .89$, n.s), supporting the idea that teaching social workers to inquire about PMS symptoms need not rely on their role or any personal experience with PMS.

Discussion

Social workers' knowledge of PMS/PMDD

The mean PEKQ score of 12.1 (60.5%) indicates a knowledge deficit about PMS/PMDD, confirming the concerns previously expressed by Siegel (1987) and Coughlin (1990). Their calls for social workers to increase their knowledge of premenstrual symptoms seems not to have been heard. The low average knowledge scores call into question how effectively social workers are assessing and counselling mothers who have PMS/PMDD. The impact of female health conditions such as PMDD, which incapacitates the monthly wellbeing of 3 to 9% of women, and PMS, which impacts a further 20 to 40%, should be considered necessary knowledge.

The mean premenstrual knowledge score was not significantly different for men and women. This lack of a gender gap is noteworthy, since one might expect women to be more knowledgeable about PMS/PMDD than men. Female social workers whose premenstrual symptoms most interfered in their daily lives scored higher on the PEKQ. Although 36 (7%) of social workers were of Indigenous backgrounds, their PEKQ scores were no different than the white or visible minority social workers.

With respect to the training that 4.7% of the social workers had received on women's premenstrual experiences, no difference in premenstrual knowledge was found for these as compared to those with no training. This finding is counter-intuitive, since one would expect that training would increase knowledge on the topic of consideration, but, as no details about the training programs were captured in the questionnaire, the need for program evaluations of any educational efforts is highlighted.

Knowledge of PMS/PMDD in the current study was considered in the context of biological, psychological, and social domains. Social workers conducting assessments with mothers should have adequate knowledge in all three domains to make that exploration valuable, productive, and beneficial to the client. The PEKQ scores reflected an average of 10% more participant premenstrual knowledge in the social domain (70%) compared to the 60% mean in the biological and psychological domains. The higher social score is understandable, given that the social domain is conventionally front and centre in social work education and practice.

Least correctly endorsed PEKQ items

Only a third of respondents who answered the PEKQ understood that PMS/PMDD presents with over 150 symptoms. It is possible that such a high numerical estimate of the item — which the research now establishes even higher, at over 200 symptoms — distracted from their understanding that PMS and PMDD present in very different ways. Social workers can assist in the diagnosis of PMDD by suggesting mothers chart their symptoms prospectively for two months, as required by the DSM-5 criteria. Such charting not only helps with diagnosis, it also affords the woman insight as she tracks her symptoms and behaviours.

Because premenstrual experiences are predictable and present-day treatments are more effective than they were when Siegel (1987) and Coughlin (1990) were writing, awareness and knowledge of PMS/PMDD can more accurately inform appropriate interventions. It is concerning that most social workers are unaware that anti-depressants are currently the first-level treatment option for women. It is incumbent on social workers to be knowledgeable about treatment alternatives, including medication and lifestyle changes. Evidence-based practice requires that social work practice decisions be guided by available and valid evidence pertaining to presenting complaint and effective treatment options (Finne, 2021; Magill, 2006). The study results add important evidence-based information about PMS/PMDD.

Respondents in the current study knew relatively little about PEKQ items in the "psychological" domain. The PEKQ item regarding the increased vulnerability of premenstrual women to suicide in the two weeks before their period was answered correctly by only 29.2% of respondents, which is concerning. Social workers are among the largest group of professionals in the mental health workforce and play a key role in the assessment of mental health and suicide (Kourgiantakis et al., 2019). When a suicide threat related to PMDD is not perceived or acted upon, the risks are high, and potentially fatal. The possibility of self-harm by mothers suffering from PMS/PMDD should pose an important concern for social workers assessing their wellbeing and parenting capacity. At

times, the stress of premenstrual symptoms can invoke a mental health crisis necessitating social work intervention. Given the vulnerability of women with PMS/PMDD to increased suicidal ideation and suicide attempts, knowledge of this disorder is critical.

Less than half of the 521 PEKQ respondents were aware that PMDD is a diagnosis in the DSM-5 — a possible oversight, given its inclusion since 2013. Some social work association codes of ethics state that social workers must have specialized knowledge of mental disorders and their impact on individual, family, and community. The lack of knowledge about the PMDD classification in the DSM-5 may not simply indicate a lack of familiarity with this particular disorder, but with the DSM as a whole. The use of the DSM in social work roles has been a source of contention and disagreement by scholars, writers, and practitioners (Frazer et al., 2009), and its treatment in social work curricula uneven. Avoiding using the DSM in practice because of concerns about labelling clients may be a professional choice, but not knowing about the contents of the DSM is unacceptable. Although there is ongoing professional conflict regarding the role of the DSM in social work practice, the profession has an ethical obligation to train workers to competently deliver clinical services (McLendon, 2014). McLendon (2014) found that many social workers do not receive DSM training in their academic courses, particularly in undergraduate programs.

Social work inquiries about PMS/PMDD

The social workers in the current study seldom inquired about mothers' premenstrual experiences — only 5% did so. The minority who did ask women about PMS/PMDD were older, had training with respect to PMS/PMDD, were more knowledgeable about premenstrual symptoms, and had premenstrual symptoms that negatively influenced their daily lives. This has implications for the value of assessments on mothers that do not address such an important and prevalent women's mental health issue. Premenstrual predictability, and thus the predictability of problematic symptoms and behaviours, can be forecast — a distinct feature uncharacteristic of most mental and physical illnesses. Social workers can and should advocate for meaningful services and supports for women suffering from PMS/PMDD including medical services, trained medical staff, and respite for women during these challenging times.

Implications for social work practice

Knowledge of a woman's premenstrual struggles can help social workers contextualize and understand previously inexplicable disruptions in treatment progress, recognizing the role that PMS/PMDD can have in precipitating crises that impact daily living. Encouraging a woman to chart her symptoms can create a collaborative discussion, creating

opportunities to plan for support, respite, self-care, and enhanced parenting or relationship strategies.

Improving our understanding of suicidal behaviour in the menstrual cycle may generate significant inroads in the prevention, assessment, and treatment for women with PMS/PMDD. Social workers should be asking suicidal women about the phase of their menstrual cycle to assess and intervene competently and effectively. Suicide risk is not static and may increase significantly during the luteal phase. PMDD, once identified, is predictable, and allows for support, safety planning, and implementing effective treatment and resources. Intervention strategies also need to address what role interpersonal difficulties — created or exacerbated by PMS/PMDD — may play in suicide-related behaviours (Joe & Niedermeier, 2009).

Assessments associated with the acts of "classifying" problems [diagnosis] and "taking action" on them [intervention] constitute key judgements in social work practice (Wallander, 2011, p. 368). There are potential risks to vulnerable women in disclosing PMS/PMDD to social workers and other professionals who may be uninformed, judgemental, and at times punitive to mothers. Historically, deficit-based child protection practices resulted in stigmatizing and often punitive approaches that emphasized problems and pathology (Waldfogel, 2000). It is important that social workers take a strength-based approach to assessing mothers, validating the challenges of PMS/PMDD, and acknowledging competencies and parenting abilities during the non-symptomatic phases of the menstrual cycle.

Informed social workers should make medical referrals as appropriate and therapeutic, or protection referrals when there are indicators that mothering capacity is compromised in the premenstruum. Social workers may also choose to work with other family members who are impacted by a woman's PMS/PMDD, and in turn, whose behaviours and responses reciprocally influence the woman and her symptoms. A treatment approach involving the partner may be more appropriate in some situations, rather than intervening only with the premenstrual sufferer (Fehlner et al., 2018; Jones et al., 2000).

Study limitations and strengths

The participants who responded to the survey invitation were likely more interested in the subject of premenstrual experiences, thus increasing the possibility of sample bias and reducing generalizability to the larger population of social workers. The variable about training was loosely conceptualized, and only a small number (4.7%) endorsed that they had any training. Some had taken a half-day PMS/PMDD training workshop by one of the authors offered through a provincial child protection training program, and others, in pursuing information for their own

personal premenstrual struggles, had taken informational sessions at a hospital women's health centre. This question is of considerable interest, but could have been worded differently to have participants expound on the type of training taken. The study results support creating such educational programs.

Further psychometric evaluation of the PEKQ, including conducting test/retest reliability and factor analysis in future, would increase confidence in the measure. Although the data was collected almost a decade ago, after a thorough updated literature search, we could find no new published research on social workers' knowledge of PMS/PMDD.

Future research could also explore male social workers' comfort in inquiring about women's PMS/PMDD, and could consider how inquiries about PMS/PMDD would be met by women from non-white cultural groups, including Indigenous women. While these were touched on in the follow-up interviews (author, in preparation), they remain important questions.

The sample size and composition are strengths, with the 521 respondents comprising a range of ages, experience working in social work positions, and in various social work roles. A power analysis (Price et al., 2005) suggests that this sample size is adequate to generalise the results to the population of Canadian social workers with a sampling error of +/- 5%. The current study sample also appears representative of the larger Canadian social work population with respect to sex and race. The breakdown of 91.4% women and 8.6% men is similar to that of a larger study of 5,383 Canadian social workers with 84% women and 16% men (Bejan et al., 2014). When considering racialized status, 12.2% of the current participants identified as non-white, which is comparable to the 13% who self-identified in the Bejan et al. (2014) study.

The development of the PEKQ survey is a strength, especially with its acceptable reliability (internal consistency). The measure represents a contribution to PMS researchers and may prove useful in assessing knowledge in social work students and other professionals who interact with mothers who may have PMS/PMDD. Finally, the complementary qualitative data collected by the researchers (author, in preparation) may well add depth and richness to the quantitative aspects presented here.

Conclusion

This study found significant gaps in social workers' knowledge about PMS/PMDD, particularly in the areas of symptom identification, treatment options, suicidal risk, and PMDD as a DSM-5 classification. A biopsychosocial perspective is helpful in assessing premenstrual knowledge, providing that the biological, psychological, and social domains are not assessed independently. Instead, it is critical that the

complexities of premenstrual experiences be assessed in the context of reciprocal interactions among the three domains.

When mothers experience premenstrual distress, social workers must also assess the wellbeing and safety of children. If social workers fail to assess "cyclical" parenting behaviours, they may incorrectly assume that a woman's parenting during the premenstruum is typical of her mothering, resulting in inappropriate decisions about the risk to children and whether they should remain with their mother. Conversely, if child protection workers respond to a complaint about the risk to a child but are unable to assess the circumstances until the mother is in the follicular phase of her menstrual cycle, they may miss the serious risk that led to the initial referral. Inaccurately assessing risk with respect to "false positive" or "false negative" assessment outcomes can be dangerous.

In conclusion, these study results can direct social work education and practice to include information about PMS/PMDD in educational institutions, post-graduate training and extra-curricular workshops to raise awareness of the potentially negative impact of these symptoms on mothering. Social workers must be trained, better informed, and sensitized about PMS/PMDD and the mental health implications of a DSM diagnosis that, at its most severe, can result in suicide, social isolation, and harm to children. Social workers need to lead by example in engaging educators and colleagues in more open discussions on the biopsychosocial premenstrual health of women.

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