

## COUPLES

## A Comparison of the Sexual Well-Being of New Parents With Community Couples

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## ABSTRACT

**Background:** Changes in sexual well-being are common for new mothers and their partners after the birth of a baby. However, most research has sampled mothers not couples, assessed only one aspect of sexual well-being, and has not included a control sample of couples.

**Aim:** This study aimed to compare the sexual well-being (ie, sexual frequency, sexual satisfaction, sexual desire, sexual distress) of first-time mothers and their partners in the transition to parenthood (first 12-month postpartum) to community couples who are not actively in this transition. We also compared the sexual well-being within couples (eg, mothers to their partners).

**Methods:** Couples in the transition to parenthood (n = 99) completed measures of sexual satisfaction, sexual desire, sexual distress, and sexual frequency at 3, 6, and 12 months postpartum, and community couples (n = 104) completed the measures at a single time point.

**Outcomes:** Measures included the following: (i) Global Measure of Sexual Satisfaction Scale; (ii) Female Sexual Function Index and International Index of Erectile Function sexual desire subscale; (iii) Female Sexual Distress Scale-Revised; and (iv) checklist of sexual behaviors.

**Results:** Compared with community controls, new parents reported lower sexual satisfaction, lower sexual desire, and higher sexual distress at all time-points; however, these group differences became less pronounced by 12 months postpartum. By 6 months postpartum, there was no difference in sexual frequency between postpartum couples and the control group. Mothers experienced persistently lower sexual desire relative to their partners throughout the 12 months postpartum. Between 39% and 59% of mothers reported clinically low sexual desire, and 47–57% reported significant sexual distress at all time points. There were no significant differences reported in sexual satisfaction, sexual desire, or sexual distress between women and their partners in the community sample.

**Clinical Implications:** Clinicians should be aware that sexual well-being may be compromised in new parents, and some of these challenges are still present for new parents at 12 months postpartum. Findings can be used to educate new parents regarding their expectations about postpartum sexual well-being.

**Strengths & Limitations:** The strengths of the present study are the dyadic approach, assessing multiple aspects of sexual well-being in new parents over time, and the comparison with a community sample. An important limitation is that the control sample was not followed up over time.

**Conclusion:** Education regarding postpartum sexual well-being should be incorporated in routine perinatal and postnatal healthcare practices to support new parents in developing realistic expectations about changes during the transition to parenthood, potentially preventing undue distress. **Schwenck GC, Dawson SJ, Muise A, et al. A Comparison of the Sexual Well-Being of New Parents With Community Couples. J Sex Med 2020;17:2156–2167.**

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## INTRODUCTION

The transition to parenthood (TTP) is often challenging for couples. Although new parents are generally excited at the arrival of their child, the postpartum period—the year after the birth of a child—is accompanied by significant biological, physical, psychological, and social changes.<sup>1,2</sup> As many as 36–58% of new parents experience declines in their sexual well-being (ie, sexual

frequency, sexual satisfaction, sexual desire, sexual distress) relative to before pregnancy.<sup>3,4</sup> Changes in parents' sexual relationships have important consequences for the parents' relationship satisfaction<sup>5</sup> and can impact the health and well-being of all members of the family, including the child.<sup>6–8</sup> Although declines in sexual well-being are common during the TTP for both parents, the literature has focused less on partners who did not give birth.<sup>9,10</sup> In addition, no previous studies have compared the sexual well-being of postpartum couples at multiple points throughout the TTP with a community sample not currently in this transition. Such a comparison would provide empirical support for long-standing clinical observations regarding the challenges new parents face with regard to their sexual well-being.

### Changes to Sexual Well-Being in the TTP

Although all couples are susceptible to fluctuations in sexual well-being over the course of their relationship, those in the TTP are particularly vulnerable, given the unique biopsychosocial changes that occur during pregnancy and postpartum.<sup>11,12</sup> In accordance with the biopsychosocial model applied to sexual well-being in the TTP, biological (eg, hormonal changes related to breastfeeding, instrumental delivery, perineal trauma), psychological (eg, postpartum depression), and social (eg, changing identities, balancing new responsibilities) factors contribute to declines in sexual well-being. While most couples have little or no sex in the first month postpartum<sup>11,13</sup> – and clinicians often recommend waiting 6 weeks after childbirth before resuming vaginal intercourse<sup>14</sup>—by 12 weeks postpartum, 78–90% have resumed vaginal intercourse.<sup>15–17</sup> On resumption of vaginal penetration, 30–62% of women experience discomfort or pain, potentially compounding the declines to sexual well-being.<sup>11</sup> Frequency of other sexual behaviors (eg, fellatio, cunnilingus, masturbation, vaginal sex) also increase over the first 12 months postpartum and tend to return to prepregnancy rates by 1 year postpartum.<sup>11,18</sup>

Sexual satisfaction—one's subjective evaluation of the positive and negative aspects of their sexual relationship<sup>19</sup>—also changes during the TTP. The limited cross-sectional and longitudinal studies sampling first-time parents (typically separately, ie, in non-dyadic studies), have found that on average, parents reported feeling “discontent” or “partly content” with their sexual relationship, with a greater proportion of new fathers\* than new mothers feeling sexually dissatisfied from pregnancy through to 12 months postpartum.<sup>3,13,20,21</sup>

New mothers and fathers also report differences in their sexual desire during the TTP.<sup>22</sup> Both mothers and fathers endorse concerns about sexual desire discrepancy, with fathers reporting greater interest in sexual activity and that these concerns were not

likely to be resolved by 12 months postpartum.<sup>3,23,24</sup> Prospective studies sampling new mothers have also observed significant declines in sexual desire at 3 months postpartum relative to before pregnancy, which improve over time but persist even at 6 months postpartum.<sup>25,26</sup>

For some new-parent couples, changes in their sexual relationship are experienced as distressing.<sup>27,28</sup> To our knowledge, limited research has been conducted on sexual distress—negative feelings associated with one's sexual relationship<sup>29</sup>—in the TTP.<sup>27,28</sup> In 1 study, nearly 90% of new parents endorsed more than 10 sexual concerns in the year after childbirth that they perceived to be moderately distressing.<sup>27</sup> Although sexual concerns can be a common experience for many couples not in the TTP,<sup>30</sup> the number of novel sexual concerns that new parents report suggest that this may be a more distressing period.<sup>31</sup>

In summary, past literature suggests that new parents experience challenges with their sexual well-being in the year after the birth of their child. Although frequency of sexual activity may return to prepregnancy levels by 12 months postpartum, other important aspects of sexual well-being do not necessarily follow the same pattern nor do these patterns look similar for mothers and fathers. Mothers often bear a heavier burden with respect to their recovery from childbirth, childcare, and housework duties, which may account for more adverse impacts on their sexual well-being relative to their partners.<sup>32,33</sup>

### Present Study

The majority of the extant research is cross-sectional and focuses on mothers' sexual function, neglecting the experience of partners and the interdependence of couples' sexual well-being.<sup>10,34</sup> Our understanding is further limited because few studies have evaluated factors other than frequency of vaginal intercourse, which does not capture the entirety of behaviors that couples engage in, thereby underestimating the frequency of sexual behaviors, and are heteronormative (reviewed in the study by Jawed-Wessel and Sevcik<sup>11</sup>). Although challenges and stressors in the postpartum period change over time, even fewer studies have sampled changes across the TTP (ie, across multiple time points) to offer a comprehensive view of new parents' sexual well-being.<sup>3,20,35–38</sup>

The present study aims to address these gaps by comparing new parents' sexual well-being across 3-, 6-, and 12 months postpartum to a community sample of couples who are not in the TTP (ie, who have no children or do not have children under the age of 1 year). Specifically, we compared mothers with community women and TTP partners with community partners at each time-point to better understand the extent to which new parents' sexual well-being may be compromised. In addition, we examined within-couple differences between couple members in the TTP and couple members who are not in the TTP at each time point. This examination allows us to identify within-couple discrepancies in sexual well-being, which likely impacts both

\* The term “father” is used in this article when the study being cited sampled male partners only. The term “partners” is used when the sample of partners to women who gave birth is gender/sex diverse, as in the current study.

members of the couple. We controlled for the interdependence between partners by sampling couples. Based on prior literature, we hypothesized the following:

1. Women in the TTP would report lower sexual satisfaction, sexual desire, and higher sexual distress relative to community women at each time point, and the magnitude of these differences would become smaller over time.
2. Partners of women in the TTP would report lower sexual satisfaction and sexual desire and higher sexual distress than community partners. However, the magnitude of these differences would decrease over the 12-month period.
3. Compared with their own partners, women who gave birth would report higher sexual satisfaction but lower sexual desire and higher sexual distress than their partners, and these differences would lessen in magnitude over the course of the TTP.
4. Couples in the TTP would report lower sexual frequency than community couples, and this difference would reduce in magnitude over time.
5. There would be no difference in sexual satisfaction among women and men in community couples.<sup>39</sup> Community partners would have higher sexual desire owing to the established discrepancies in sexual desire between men and women.<sup>36,40,41</sup> No a priori hypothesis was formed regarding levels of sexual distress within members of the community couples because of lack of prior research.

## MATERIALS AND METHODS

### Participants and Procedure

Couples were recruited separately for the TTP and community samples. The data for the present study were drawn from larger studies (refer to additional studies using new mothers' data from the TTP sample<sup>42,43</sup> and community couples sample<sup>44,45</sup>). All couples in the TTP sample and 73% of the community sample were recruited from Canada. Participants from both samples were required to be 18 years or older, fluent in English, and have access to a personal e-mail account. Participants were excluded if they had unmanaged, self-reported medical or psychiatric illnesses. All recruitment materials clearly stated that the study was inclusive of all couples. Once couples in both samples were recruited and informed consent was obtained, participants were e-mailed links to surveys using the Qualtrics Research Suite survey software and responded to measures assessing their sexual satisfaction, sexual desire, and sexual distress, with only mothers reporting sexual frequency for the couple. Couple members were instructed to complete their surveys independently from each other. Participation was encouraged through phone call reminders from a research assistant if the participant had not completed their survey within 1 week and e-mail follow-ups after 2 and 3 weeks.<sup>31</sup> Survey

links expired after 4 weeks. The authors' institutional research ethics boards approved the studies.

### TTP Sample

Couples in the TTP were recruited between 18 and 22 weeks of pregnancy ( $M = 20.73$  weeks; *range* 18–26 weeks,  $SD = 1.14$ ) from the IWK Health Centre Diagnostic Imaging Clinic, Halifax, Canada from January 2015 to August 2017 by trained research assistants. Additional inclusion criteria for couples in the TTP sample included women who were primiparous and had an uncomplicated singleton pregnancy, as parents of multiples have a unique experience and may be at a higher risk for mental health concerns.<sup>46</sup> In line with an a priori power analysis, 906 women were recruited for the larger study. All women from the larger study deemed to be eligible after ethics was approved for the substudy ( $n = 202$ ) were approached to invite their partner to participate in this substudy. 84 couples declined or did not respond, and 17 couples were excluded because at least one member did not complete the 3-month survey, resulting in 101 TTP couples enrolled in the present study. Of the participants recruited for the TTP sample, 2 couples were later excluded because they broke up at 6 months ( $n = 1$ ) and at 12 months ( $n = 1$ ). The final TTP sample included 99 couples (198 individuals), including 1 same-sex couple (female-female).

Couples in the TTP completed surveys at 3, 6, and 12 months postpartum. Those who became pregnant between 6 and 12 months postpartum ( $n = 8$ ) were excluded from the 12-month analyses. Each member of the couple received \$10 CAD in Amazon.ca gift cards for each of the 3 postpartum surveys they completed.

### Community Sample

Community sample couples were recruited via online and radio advertisements, word of mouth, and flyers throughout Canada and the United States from June 2017 to March 2018. As mandatory for the larger study,<sup>45</sup> couples in the community sample were required to be in a committed relationship with each other for a minimum of 6 months, with at least 4 in-person contacts per week in the previous month. Participants were excluded from the community sample if they were currently pregnant, breastfeeding, undergoing hormonal therapy (aside from hormonal contraceptives), had no prior sexual experience, or they reported experiencing clinically significant sexual difficulties or distress (ie, sexual dysfunction) related to their sexual relationship. Of the 112 community couples that met basic eligibility requirements, couples were excluded for the present study for the following reasons: couples with failed attention checks ( $n = 3$ ), couples with child(ren) under 1 year of age ( $n = 2$ ), and male-male couples ( $n = 3$ ). Male-male couples were excluded because they did not receive the Female Sexual

Function Index (FSFI), which included a subscale that assesses sexual desire in women and thus would not be a good reference for mothers in the TTP group. The resulting eligible sample included 104 community couples (208 individuals), with 6 same-sex couples (female-female). Each member of the couple received \$10 CAD (USD equivalent) in [Amazon.ca/.com](https://www.amazon.ca/) gift cards for participating in the study through completion of a single survey at one time point.

## Measures

### Sociodemographics

Participants reported their age, sex, gender, sexual orientation, whether or not they had children, ethnicity, household income, and relationship status and duration.

### Sexual Satisfaction

Sexual satisfaction was evaluated using the Global Measure of Sexual Satisfaction.<sup>47</sup> The measure consists of 5 bipolar items (eg, good/bad, pleasant/unpleasant) rated on the 7-point Likert scale. Total scores range from 5 to 35, with higher scores signifying greater sexual satisfaction. The scale has been validated for both women and men<sup>39</sup> and showed strong internal consistency in the present study at 3 months (includes community couples; Cronbach's  $\alpha = 0.91$ ), 6 months (Cronbach's  $\alpha = 0.89$ ), and 12 months (Cronbach's  $\alpha = 0.90$ ).

### Sexual Desire

Sexual desire in women was measured with 2 items in the desire domain of the FSFI<sup>48</sup> (eg, Over the past 4 weeks, how often did you feel sexual desire or interest? Over the past 4 weeks, how would you rate your level [degree] of sexual desire or interest?). The desire subscale of the FSFI has been validated in a sample of women with female sexual arousal disorder and women without sexual difficulties,<sup>48</sup> and showed strong internal consistency with our sample at 3 months (includes community women; Cronbach's  $\alpha = 0.92$ ), 6 months (Cronbach's  $\alpha = 0.89$ ), and 12 months (Cronbach's  $\alpha = 0.89$ ). Sexual desire in men was measured with 2 items in the desire domain of the International Index of Erectile Function<sup>49</sup> (IIEF; eg, How often have you felt sexual desire? How would you rate your level of sexual desire?). The IIEF desire subscale has been validated in men with erectile dysfunction and age-matched controls<sup>49</sup> and showed strong internal consistency in the present study at 3 months (includes community partners; Cronbach's  $\alpha = 0.86$ ), 6 months (Cronbach's  $\alpha = 0.85$ ), and 12 months (Cronbach's  $\alpha = 0.85$ ). Both measures were scored using the IIEF protocol to enable comparisons so that all desire scores were on the same scale. The items are rated on a 5-point Likert scale. The 2 items are summed, scores range from 2 to 10, with higher scores indicating greater sexual desire. An FSFI desire subscale score of 5 or lower is considered clinically significant low desire and differentiates women with and without hypoactive

sexual desire disorder.<sup>50</sup> There is no recommended cutoff for the desire subscale for men using the IIEF.

### Sexual Distress

The well-validated 13-item Female Sexual Distress Scale-Revised was used to assess sexual distress.<sup>51</sup> This measure is valid in both men and women<sup>51,52</sup> and showed strong internal consistency in our sample at 3 months (includes community couples; Cronbach's  $\alpha = 0.93$ ), 6 months (Cronbach's  $\alpha = 0.91$ ), and 12 months (Cronbach's  $\alpha = 0.91$ ). The measure uses a 5-point Likert scale, and total scores range from 0 to 52, with higher scores associated with higher levels of distress (eg, frustration, guilt) in regard to participants' sex lives. Clinically significant sexual distress in women is indicated by a score of 11 or higher on the scale.<sup>29</sup> In men, a cutoff score of 19.5 or higher has been suggested as clinically significant distress; however, this should be interpreted cautiously because far less research on sexual distress has been conducted with men.<sup>52</sup> Partners' scores on the Female Sexual Distress Scale-Revised were evaluated with the cutoffs associated with their reported gender/sex.

### Sexual Frequency

Sexual frequency was assessed on a 7-point Likert scale; participants reported how often they engaged in a checklist of 9 sexual behaviors (eg, vaginal intercourse, oral sex, manual stimulation, and so on) during the previous 4 weeks.<sup>42</sup> A summary score was created by summing the 6 interpersonal sexual behaviors (eg, giving/receiving oral sex, giving/receiving manual stimulation of genitals). Total scores ranged from 0 to 36, with higher scores indicating increased frequency of various sexual behaviors. This measure displayed good internal consistency in our sample at 3 months (includes community couples; Cronbach's  $\alpha = 0.90$ ), 6 months (Cronbach's  $\alpha = 0.81$ ), and 12 months (Cronbach's  $\alpha = 0.86$ ).

## Data Analysis

Statistical analyses were conducted with SPSS, version 25.0 (SPSS Inc, Chicago, IL). The between-subjects variable—*group*—differentiated couples in the TTP from community couples, whereas the within-subjects variable—*role*—differentiated the woman who gave birth and the woman in the community group who completed the screening, from their partners. We conducted 3 separate 2 (role: woman/partner) X 2 (group: TTP/community) mixed multivariate analyses of covariance (ANCOVAs) to compare the sexual well-being (sexual desire, sexual satisfaction, sexual distress) of couples in the TTP at each postpartum time point (ie, 3, 6, and 12 months) with that of the community group. Including role as a within-subjects factor allowed us to account for the interdependence of couples' responses. Univariate ANCOVAs and follow-up pairwise comparisons were conducted to examine observed group and role by group interaction effects. A Bonferroni-Holm correction ( $P = .017$ ) was

**Table 1.** Sample characteristics

	TTP (n = 99)	Community (n = 104)	P-value*
Age (y), M (SD), range (y)			
Women	29.5 (3.6), 18–38	30.0 (8.7), 19–61	.56
Partners	31.6 (4.0), 19–43	32.1 (10.0), 19–64	.66
Partner sex/gender, n (%)			.11
Male	97 (98.0%)	95 (91.3%)	
Female	1 (1.0%)	6 (5.8%)	
Non-binary	1 (1.0%)	3 (2.9%)	
Sexual orientation, n (%)			
Women			<.001
Heterosexual	93 (93.9%)	67 (64.4%)	
Bisexual	4 (4.0%)	17 (16.3%)	
Other <sup>†</sup>	2 (2.0%)	20 (19.2%)	
Partners			<.001
Heterosexual	95 (96.0%)	80 (76.9%)	
Bisexual	2 (2.0%)	11 (10.6%)	
Other <sup>†</sup>	2 (2.0%)	13 (12.5%)	
Couples with children, n (%)			<.001
Yes <sup>‡</sup>	99 (100%)	30 (28.8%)	
No	0 (0%)	74 (71.2%)	
Ethnicity/Culture, n (%)			
Women			.004
Caucasian/European/White	89 (89.9%)	74 (71.2%)	
Asian American/Canadian	4 (4%)	5 (4.8%)	
Asian			
African American/Canadian	1 (1%)	3 (2.9%)	
Other <sup>‡</sup>	5 (5.1%)	22 (21.2%)	
Partners			.041
Caucasian/European/White	85 (87.6%)	74 (71.2%)	
Asian American/Canadian	2 (2.1%)	5 (4.8%)	
African American/Canadian	1 (1.0%)	3 (2.9%)	
Other <sup>‡</sup>	9 (9.3%)	22 (21.2%)	
Combined annual income, n (%)			<.001
\$0–\$39,999	5 (5.1%)	42 (40.4%)	
\$40,000–\$79,999	25 (25.3%)	34 (32.7%)	
>\$80,000	69 (69.7%)	28 (26.9%)	
Relationship type, n (%)			<.001
Dating	0 (0%)	23 (22.1%)	
Cohabiting	7 (7.1%)	27 (26.0%)	
Engaged	5 (5.1%)	3 (2.9%)	
Married/Common-law	86 (86.8%)	49 (47.1%)	
Other <sup>§</sup>	1 (1.0%)	2 (1.9%)	
Relationship duration (months), M (SD)	81.2 (43.3)	74.9 (85.2)	.51

TTP = transition to parenthood.

\*Independent samples *t*-test or chi-square test.

<sup>†</sup>Other self-identified sexual orientations included the following: asexual, bi-curious, demi-sexual, gay, hetero-flexible, lesbian, pansexual, queer, unlabeled.

<sup>‡</sup>Other ethnicities included the following: Ashkenazi, biracial/multiracial, Caribbean, East Indian, First Nations Canadian, Hispanic/Latino/Latina, Inuit, Middle Eastern/Central Asian, Portuguese.

<sup>§</sup>Other relationship types included the following: “dating more than 1 partner” or unspecified other.

<sup>||</sup>Differences between community couples with and without children were examined for each of our outcome variables. No significant differences were observed.

applied to all significance tests to account for the multiple comparisons.<sup>53,54</sup> Our primary aim was to examine if women and partners in the TTP differed from community women and partners in their sexual well-being, which was contingent on a main

effect of group or a significant interaction between role and group at each time point. Our secondary aim was to examine if sexual well-being differed within-couples, that is between women and partners in the TTP and between women and partners in the

community sample. Main effects of role were not interpretable owing to the inclusion of same-sex couples nor were they of primary interest for the present study aims. Effect size estimates are reported as partial eta squared ( $\eta_p^2$ ). Frequency of sexual activity was a couple-level variable (ie, only the woman in the couple reported on this variable), as such 3 separate ANCOVAs were conducted to compare sexual activity at 3, 6, and 12 months postpartum. Before running the analyses described previously, group differences in sociodemographic variables (see Table 1) were examined using either chi-square or *t*-tests.

## RESULTS

Participant demographics for all study variables can be found in Table 1. The TTP and community groups did not differ significantly with respect to their age, partner gender, or relationship duration. The 2 groups significantly differed as a function of their sexual orientation, ethnicity, income, and relationship type (see Table 1). Given the relatively small sample size, we conducted separate multivariate ANCOVAs for each of the significant sociodemographic variables. The pattern of results remained the same when controlling for the sociodemographic variables, except for income. Therefore, income was retained as a covariate in the analyses reported in the following.

### Sexual Well-Being for Couples at 3 Months Postpartum Compared With That of Community Couples

Comparison of couples in the TTP at 3 months postpartum with community couples revealed significant multivariate effects for group,  $F(3, 191) = 25.30, P < .001, \eta_p^2 = 0.28$ , as well as a significant group by role interaction,  $F(3, 191) = 11.05, P < .001, \eta_p^2 = 0.15$ . Using the Bonferroni-Holm corrected *P*-value (.017), there was no significant main effect of income,  $F(3, 191) = 2.85, P = .04, \eta_p^2 = 0.04$ , role  $F(3, 191) = 3.35, P = .02, \eta_p^2 = 0.05$ , or significant interaction between income and role,  $F(3, 191) = 1.92, P = .13, \eta_p^2 = 0.03$ . Follow-up ANCOVAs examining the effect of group showed that, overall, couples in the TTP reported lower sexual satisfaction,  $F(1, 193) = 44.11, P < .001, \eta_p^2 = 0.19$ , lower sexual desire,  $F(1, 193) = 56.34, P < .001, \eta_p^2 = 0.23$ , and higher sexual distress,  $F(1, 193) = 22.06, P < .001, \eta_p^2 = 0.10$ , compared with community couples (see Table 2). In addition, a separate ANCOVA revealed that couples in the TTP reported less frequent sexual activity,  $F(1, 197) = 14.70, P < .001, \eta_p^2 = 0.07$ , compared with community couples. Follow-up ANCOVAs examining the role by group interaction effect revealed significant effects for sexual satisfaction,  $F(1, 193) = 22.26, P < .001, \eta_p^2 = 0.10$  and sexual desire,  $F(1, 193) = 20.08, P < .001, \eta_p^2 = 0.09$ , but not for sexual distress,  $F(1, 193) = 2.80, P = .10, \eta_p^2 = 0.01$ , suggesting that both partners at 3 months postpartum reported higher sexual distress than community couples. Pairwise mean comparisons revealed that compared with community women, women in the TTP

reported lower sexual satisfaction ( $P < .001, d = 1.35$ ) and lower sexual desire ( $P < .001, d = 1.60$ ). Partners of women in the TTP reported lower sexual desire<sup>†</sup> ( $P = .009, d = 0.47$ ) but not sexual satisfaction (after correcting for multiple comparisons;  $P = .03, d = 0.60$ ) compared with community partners. Women in the TTP also reported lower sexual satisfaction ( $P < .001, d = 0.65$ ) and sexual desire ( $P < .001, d = 1.25$ ) than their own partners, whereas community couples did not differ significantly in their sexual satisfaction or sexual desire ( $ps > 0.10, ds < 0.19$ ; see Table 3 for descriptive statistics). Regarding clinically significant problems with low desire and significant sexual distress, 58% of women in the TTP ( $n = 57$ ) at 3 months postpartum and 10% of women in the community sample ( $n = 10$ ) reported clinically low sexual desire. In addition, 55% of women ( $n = 55$ ) and 8% of partners ( $n = 8$ ) in the TTP and 21% of women ( $n = 22$ ) and 6% of partners in the community sample ( $n = 6$ ) reported clinically significant sexual distress.

### Sexual Well-Being for Couples at 6 Months Postpartum Compared With That of Community Couples

Comparison of couples in the TTP at 6 months postpartum with community couples revealed a significant multivariate effect for the group,  $F(3, 190) = 26.68, P < .001, \eta_p^2 = 0.30$ , and a significant group by role interaction,  $F(3, 190) = 5.15, P = .002, \eta_p^2 = 0.08$ . There were no significant multivariate effects of income, role, or an interaction between income and role (all  $Fs[3, 190] < 2.10, ps > 0.10, \eta_p^2 < 0.03$ ). Follow-up ANCOVAs examining the effect of group, showed that at 6 months postpartum, overall, couples in the TTP reported lower sexual satisfaction,  $F(1, 192) = 52.47, P < .001, \eta_p^2 = 0.22$ , and sexual desire,  $F(1, 192) = 55.11, P < .001, \eta_p^2 = 0.22$ , and higher sexual distress,  $F(1, 192) = 22.06, P < .001, \eta_p^2 = 0.11$ . However, there was no difference in frequency of sexual activity,  $F(1, 199) = 0.06, P = .81, \eta_p^2 < 0.001$  (see Table 2). Follow-up ANCOVAs to examine the role by group interaction effect were significant for sexual desire,  $F(1, 192) = 14.78, P < .001, \eta_p^2 = 0.07$ , but not for sexual satisfaction or sexual distress,  $F(1, 192) < 3.19, ps > 0.08, \eta_p^2 < 0.02$  (see Table 3), suggesting that both partners at 6 months postpartum reported lower sexual satisfaction and higher sexual distress compared with community couples. Pairwise mean comparisons to understand the significant interaction for sexual desire revealed that compared with community women, women in the TTP reported lower sexual desire ( $P < .001, d = 1.41$ ). Partners of women in the TTP also reported lower sexual desire<sup>‡</sup> ( $P = .006, d = 0.51$ ) than community partners. In addition, women in the TTP reported lower

<sup>†</sup> When comparing the TTP partners with control partners without children ( $n = 74$ ) and with control partners who were cohabitating ( $n = 76$ ), there were no significant differences in sexual desire ( $ps = 0.10$  and  $0.03$ , respectively) after applying the Bonferroni-Holm correction for multiple comparisons.

<sup>‡</sup> When comparing TTP partners with community partners without children ( $n = 74$ ), there was no difference in sexual desire ( $P = .08$ ).

sexual desire ( $P < .001$ ,  $d = 1.07$ ) than their own partners (see Table 3 for descriptive statistics). Because sexual well-being was only assessed at one time-point for the community sample, the results for community couples are identical to those reported at 3 months, such that community women and their partners did not differ significantly in their sexual satisfaction or sexual desire ( $ps > 0.10$ ,  $ds < 0.19$ ). At 6 months postpartum, 55% of women in the TTP ( $n = 54$ ) reported clinically low sexual desire. In addition, 57% of women ( $n = 56$ ) and 11% of partners in the TTP ( $n = 11$ ) reported clinically significant sexual distress.

### Sexual Well-Being for Couples at 12 Months Postpartum Compared With That of Community Couples

Comparison of couples in the TTP at 12 months postpartum with community couples revealed significant multivariate effects for income,  $F(3, 173) = 4.29$ ,  $P = .006$ ,  $\eta_p^2 = 0.07$ , group,  $F(3, 173) = 16.49$ ,  $P < .001$ ,  $\eta_p^2 = 0.22$ , and a significant group by role interaction,  $F(3, 173) = 5.30$ ,  $P = .002$ ,  $\eta_p^2 = 0.08$ . There was no significant multivariate effect of role or the role by income interaction, (all  $F$ s [3, 171]  $< 1.53$ ,  $ps > 0.21$ ,  $\eta_p^2 < 0.03$ ). Follow-up ANCOVAs examining the effect of group showed that, overall, couples in the TTP reported lower sexual satisfaction,  $F(1, 175) = 42.31$ ,  $P < .001$ ,  $\eta_p^2 = 0.20$ , and sexual desire,  $F(1, 175) = 22.92$ ,  $P < .001$ ,  $\eta_p^2 = 0.12$ , and higher sexual distress,  $F(1, 175) = 11.42$ ,  $P = .001$ ,  $\eta_p^2 = 0.06$ . There was, again, no difference in frequency of sexual activity,  $F(1, 185) = 3.04$ ,  $P = .08$ ,  $\eta_p^2 = 0.02$ . Follow-up ANCOVAs to examine the role by group interaction effect was significant for sexual desire,  $F(1, 175) = 13.25$ ,  $P < .001$ ,  $\eta_p^2 = 0.07$ , but not sexual satisfaction,  $F(1, 175) = 0.24$ ,  $P = .62$ ,  $\eta_p^2 = 0.001$ , or sexual distress,  $F(1, 175) = 0.001$ ,  $P = .98$ ,  $\eta_p^2 < 0.001$ . Thus, both partners at 12 months postpartum reported lower sexual satisfaction and higher sexual distress compared with community couples. Pairwise mean comparisons revealed that compared with community women, women in the TTP reported lower sexual desire ( $P < .001$ ,  $d = 1.18$ ). There was no difference in sexual desire between partners of women in the TTP and community partners, ( $P = .18$ ,  $d = 0.29$ ). Women in the TTP also reported lower sexual desire ( $P < .001$ ,  $d = 1.02$ ) than their own partners (Table 2). Community women and their partners did not differ significantly in their sexual satisfaction or sexual desire as noted previously ( $ps > 0.10$ ,  $ds < 0.19$ ). At 12 months postpartum, 39% of women in the TTP ( $n = 39$ ) reported clinically low sexual desire and 47% of women ( $n = 47$ ) and 12% of partners in the TTP ( $n = 12$ ) reported clinically significant sexual distress.

## DISCUSSION

This study compared the sexual well-being of women and their partners in the TTP with that of a community sample of couples who were not in the TTP. In line with our hypotheses, couples in the TTP reported lower sexual satisfaction, lower

sexual desire, and higher sexual distress compared with community couples at 3, 6, and 12 months postpartum. These group differences tended to become less pronounced—though still significant—as couples in the TTP reached 12 months postpartum. By 6 months postpartum, sexual frequency in TTP couples was similar to that of community couples, and this effect was maintained at 12 months. Furthermore, women in the TTP reported lower sexual satisfaction than their partners at 3 months postpartum and lower sexual desire than their partners at 3, 6, and 12 months postpartum. This study is the first one to our knowledge to compare sexual well-being for both parents across multiple time-points with that of a community sample not in the transition to parenthood.

Couples in the TTP reported lower sexual satisfaction, lower sexual desire, and higher sexual distress than community couples throughout the year after childbirth, despite engaging in sexual activity at a similar frequency to community couples by the 6-month time point. These differences are possibly due to the unique demands and shared experiences of new parenthood. The birth of a baby, on average, adds more than 30 hours of work per week for new parents.<sup>55</sup> This additional time spent child-rearing may result in less couple-focused time and communication, which may in turn impact their time, energy, and interest in sexual activity.<sup>56</sup> Indeed, studies of new mothers and fathers have found that sex was of lower priority in the postpartum period because of increased fatigue and time spent caring for their child compared with pregnancy.<sup>9,57,58</sup> In addition, studies have determined that perceived closeness with one's partner (ie, feelings of intimacy, feeling supported, and mutual understanding) is an especially important determinant of sexual satisfaction<sup>59</sup> and sexual desire.<sup>60</sup> As such, when new parents' focus and time are increasingly dedicated to their child and there is less opportunity for connection with their partner,<sup>9</sup> their sexual well-being may suffer.<sup>61</sup> Furthermore, for both new mothers and fathers, increased reports of stress are associated with lower sexual satisfaction and sexual desire.<sup>58,62</sup>

More specifically, women in the TTP reported significantly lower sexual well-being (ie, lower satisfaction, lower sexual desire, and higher sexual distress) than community women. In addition, many women in the TTP reported clinically low sexual desire (ie, between 39% and 59%) and clinically significant sexual distress (ie, between 47% and 57%) throughout the TTP. In contrast, at some time points, partners in the TTP did not differ from community partners in reports of their sexual well-being (ie, sexual satisfaction at 3 months postpartum and sexual desire at 12 months postpartum). Biopsychosocial factors that uniquely impact women in the TTP may contribute to more persistent or marked declines in sexual well-being. Women who gave birth experience significant biological changes during pregnancy and childbirth (eg, hormonal changes related to breastfeeding, perineal trauma during childbirth) that can negatively impact physical and emotional recovery.<sup>11,63</sup> However, research suggests that these biological factors (eg, pain severe enough to limit

**Table 2.** Descriptives and follow-up ANCOVAs for the main effect of group for sexual satisfaction, sexual desire, sexual distress, and sexual frequency for couples in the TTP and community couples

Variable/Group	Time-point	N	Mean	SD	F	$\eta_p^2$
<b>Sexual satisfaction</b>						
TTP	3 mo	92	26.24	6.36	44.11*	.19
	6 mo	91	25.80	6.19	52.47*	.22
	12 mo	74	25.91	6.34	42.31*	.20
Community	n/a	104	31.50	3.93		
<b>Sexual desire</b>						
TTP	3 mo	92	6.06	1.62	56.34*	.23
	6 mo	91	6.08	1.74	55.11*	.22
	12 mo	74	6.45	1.79	22.92*	.12
Community	n/a	104	7.72	1.85		
<b>Sexual distress</b>						
TTP	3 mo	92	12.19	8.91	22.06*	.10
	6 mo	91	12.12	8.83	22.06*	.11
	12 mo	74	11.20	8.57	11.42*	.06
Community	n/a	104	6.70	7.16		
<b>Sexual frequency</b>						
TTP	3 mo	96	9.46	6.47	14.70*	.07
	6 mo	98	13.60	8.17	0.06	<.001
	12 mo	84	11.13	7.38	3.04	.02
Community	n/a	104	13.74	5.83		

ANCOVAs = analyses of covariance; n/a = not applicable; TTP = transition to parenthood.

Possible range of scores: sexual satisfaction (5–35), sexual desire (2–10), sexual distress (0–52), sexual frequency (0–36).

\* $P < .001$ .

vaginal penetration) resolve in most women by 6 months postpartum.<sup>2,25,64</sup> Thus, there may be psychosocial factors persisting at 6–12 months postpartum that are associated with lower sexual well-being throughout the TTP. For example, after giving birth, many women report body image concerns, which has been linked with lower sexual well-being in new mothers.<sup>12,57,65,66</sup> Women have also reported that they prioritize different things after childbirth, such as wanting to spend time on their own after continuous daily physical contact with their child, as well as anxiety during sexual activity owing to concerns about waking the child, both of which may contribute to lower sexual desire.<sup>2,57</sup>

Consistent with our predictions, we observed that women in the TTP reported lower sexual satisfaction than their partners at 3 months postpartum, and they reported lower sexual desire than their partners across 3, 6, and 12 months postpartum. Partners may differ in their expectations around sex contributing to differences in sexual satisfaction early in the TTP. Indeed, a study of new fathers' expectations of sexuality at 3–6 months postpartum found that they did not expect to engage in sexual behavior in the first few months after childbirth.<sup>9</sup> In addition, while both partners in the TTP experience new and consistent stressors, heightened stress during this time has been associated with lower sexual desire in women but not their partners.<sup>62</sup> Such findings are consistent with Basson's<sup>67</sup> model of sexual function in women and research by Baumeister et al,<sup>68</sup> which suggest that

women's sexual well-being is more susceptible to contextual and relational factors than men's.

In line with our hypotheses, community couples not in the TTP reported no significant differences between partners in sexual satisfaction and sexual desire. Interestingly, we did not find the commonly documented sex/gender difference in sexual desire.<sup>40,41</sup> The gender difference in sexual desire has been demonstrated to be smaller in magnitude for those in committed mixed-sex relationships than when considering solitary sexual activity (eg, masturbation) or sexual activity with an unfamiliar other, where men report higher levels of desire.<sup>41,69</sup> One other possibility for the absence of the expected desire discrepancy is that participants in our community sample were screened to not have clinically significant difficulties in sexual desire.

### Limitations and Future Directions

Our sample was relatively young and homogenous with respect to ethnicity, relationship type, and sexual orientation. Thus, the data from this study may not be generalizable to more diverse populations. Geographic regions of the 2 samples also varied; the TTP sample was recruited in-person from a local hospital in Canada, whereas the control sample was recruited online across Canada and the United States. Despite these differences in recruitment strategies, the only demographic difference that was significantly associated with our models was higher income reported by the TTP sample, which we subsequently

**Table 3.** Descriptives, follow-up ANCOVAs, and pairwise comparisons for the group by role interaction for sexual satisfaction, sexual desire, and sexual distress for women and their partners in the TTP sample at 3-, 6, and 12-month postpartum and women and their partners in the community sample

Variable/Group	Time point	N	Women		Partners		Follow-up ANCOVA	
			Mean	SD	Mean	SD	F	$\eta_p^2$
<b>Sexual satisfaction</b>								
TTP	3 mo	92	24.15 <sub>ab</sub>	6.99	28.33 <sub>b</sub>	5.73	22.26*	.10
	6 mo	91	25.71	6.09	25.88	6.09	0.70	.004
	12 mo	74	26.03	6.41	25.78	6.26	0.24	<.001
Community	n/a	104	31.64 <sub>a</sub>	3.55	31.36	4.31		
<b>Sexual desire</b>								
TTP	3 mo	92	5.04 <sub>ce</sub>	1.53	7.07 <sub>de</sub>	1.71	20.08*	.09
	6 mo	91	5.14 <sub>fh</sub>	1.81	7.01 <sub>gh</sub>	1.67	14.78*	.07
	12 mo	74	5.54 <sub>ij</sub>	1.81	7.36 <sub>j</sub>	1.77	13.25*	.07
Community	n/a	104	7.56 <sub>cfi</sub>	1.61	7.87 <sub>dj</sub>	1.70		
<b>Sexual distress</b>								
TTP	3 mo	92	13.72	10.03	10.65	7.79	2.80	.01
	6 mo	91	13.32	9.29	10.92	8.37	3.19	.02
	12 mo	74	11.09	8.48	11.31	8.66	0.001	<.001
Community	n/a	104	6.25	6.63	7.15	7.70		

ANCOVAs = analyses of covariance; n/a = not applicable; TTP = transition to parenthood.

For the outcome variables, means with the same subscript letter indicate a significant difference corresponding to the effects reported in the results section (eg, the subscript "a" indicates a significant difference between TTP women's sexual satisfaction at 3-month postpartum and community women's sexual satisfaction).

Possible range of scores: sexual satisfaction (5–35), sexual desire (2–10), sexual distress (0–52).

\* $P < .001$ .

controlled for in our analyses. Although the results in the present study remained the same after controlling for income, it is possible that other unassessed factors that relate to income may be relevant. For example, prior research suggests that higher expectations for sexual fulfillment is associated with both a higher household income and lower sexual satisfaction.<sup>70</sup> In addition, while couples were instructed to complete their surveys independently of one another, participation was entirely online, and we are unable to ascertain that participants followed this instruction. The same community sample data were used for comparison at each of the 3 postpartum time points, which did not account for potential changes couples may experience over time. Previous research suggests that sexual desire, satisfaction, and frequency peak at the beginning of a relationship and often decline as the relationship progresses.<sup>22,71,72</sup> Thus, longitudinal data should be collected for community couples in a future replication study to compare the magnitude of potential declines. The study results support the importance of continued research that includes both members of the TTP couple, specifically with regard to psychosocial factors that may impact the sexual well-being of both partners, including elucidating those factors that may have a stronger impact on the partner who gave birth.

## CONCLUSIONS

The present study highlighted that the TTP is associated with poorer sexual well-being among new parents as compared with

community couples, with mothers also reporting more disruptions relative to their own partners. Our findings may aid in the development of psychoeducational information for new parent couples' sexual well-being. Sharing information regarding postpartum sexual well-being may support new parents by normalizing their experiences and promoting the development of more realistic expectations about changes during the TTP. Unmet expectations across the TTP have previously been linked to lower relationship satisfaction,<sup>73</sup> which is in turn associated with sexual satisfaction.<sup>74</sup> A better understanding of adverse changes in the sexual well-being of new parents will also encourage clinicians to focus on helping new parents promote their sexual well-being to buffer against declines (eg, increasing dyadic empathy,<sup>75</sup> self-expansion activities<sup>76</sup>). The results also highlight which specific factors are most problematic across the TTP (ie, sexual desire) and are an important reminder to clinicians that challenges to new parents' sexual well-being do not necessarily resolve by the end of the first postpartum year and should continue to be queried. Interventions should thus be incorporated into routine perinatal and postnatal healthcare practices that extend throughout the first year postpartum, as parents have the most contact with these healthcare professionals during the TTP.<sup>77</sup>

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