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Title page

Title

How to deal with sexual changes during and after pregnancy: Results of a brief psycho-educational workshop with future and new parenting couples

Running head

Workshop on perinatal sexuality

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Conflict of interest

- None

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- This study was approved by the Comité d'éthique de la recherche du CIUSSS de l'Estrie – CHUS (Centre intégré universitaire de santé et de services sociaux de l'Estrie – Centre hospitalier universitaire de Sherbrooke)

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Abstract

After documenting parenting couples' needs regarding perinatal sexuality, this study developed and evaluated a brief psycho-educational workshop on perinatal sexuality. Participants (16 future and 17 new parents) completed five steps: 1) online questionnaire (T1) assessing needs toward the workshop and sexoperinatal knowledge, attitudes, and perceptions; 2) two-hour online workshop on perinatal sexuality; 3) post-workshop satisfaction questionnaire; 4) one-month (T2) and 5) two-month (T3) post-workshop questionnaires with the same measures as in T1. One month after the workshop, knowledge, attitudes, and perceptions towards perinatal sexuality increased significantly. Sexoperinatal interventions from healthcare workers are still uncommon, although there is a need for information and support. This brief online workshop is promising for better education and empowerment of parenting couples regarding perinatal sexuality.

Keywords: perinatal sexuality; parenting couples; psycho-educational workshop; knowledge; attitudes

How to deal with sexual changes during and after pregnancy: Results of a brief psycho-educational workshop with future and new parenting couples

Introduction

Future and new parenting couples (i.e., currently pregnant couples and couples having welcomed a new baby) are vulnerable to relationship and sexual changes during and after pregnancy (de Pierrepont & Polomeno, 2014; de Pierrepont, Polomeno, Bouchard, & Reissing, 2016a, 2016b; Delicate, Ayers, & McMullen, 2018; Jawed-Wessel & Sevick, 2017; Polomeno, 2014). Recent reviews have highlighted multiple sexual fluctuations that can occur during the perinatal period (de Pierrepont et al., 2016a, 2016b; Jawed-Wessel & Sevick, 2017; Johnson, 2011; McBride & Kwee, 2017). While there are unique experiences and exceptions, research has documented a gradual downward trend in most sexual dimensions during pregnancy, with a marked decrease in early pregnancy and the third trimester. This trajectory has been reported for frequency of intercourse and other sexual activities, importance of sexuality, desire, arousal, satisfaction, orgasm, pleasure, and sexual function in general. As for postnatal sexuality, some recurring elements have been identified in the literature, including a relatively inactive period of sexuality in the early postpartum months, followed by a gradual increase from three to six months postnatal which continues for up to 12 months or more post-delivery. On average, couples resume intercourse between 6 and 8 weeks after delivery, but resumption of sexual activities is gradual and is spread over several months. The same reviews have also found that sexual problems (including dyspareunia in women) are common in the first postpartum year. In addition to socio-cultural influences, many physiological (e.g., fatigue, discomfort, pain, pregnancy sickness, lacerations / tears, breastfeeding) and psychological factors (e.g., depression, fears and anxieties, beliefs, body issues and feeling of desirability) simultaneously affect

couples' sexual expression during the perinatal period. Whether during or after pregnancy, women are particularly affected by sexual changes (especially regarding sexual function), but so are men, as pointed out by some of the rare studies focusing on the men's sexual experiences (e.g., Condon, Boyce, & Corkindale, 2004).

Recent studies have found that sexual issues and concerns are very common during the perinatal period (Jawed-Wessel & Sevick, 2017; McDonald, Woolhouse, & Brown, 2015; Schlagintweit, Bailey, & Rosen, 2016) and they are associated with elevated degrees of distress in parenting couples (Schlagintweit et al., 2016; Vannier & Rosen, 2017). Parenting couples have thus expressed a strong desire for information and support regarding the sexual changes that may occur during the perinatal period (de Pierrepont, Polomeno, Bouchard, & Reissing, 2017; Johnson, 2011; Woolhouse, McDonald, & Brown, 2014). Studies have also revealed that parents need to be reassured regarding the normality and transience of sexual changes during and after pregnancy, and they want to be referred to specialized resources when needed.

While sexual concerns are common in future and new parenting couples, perinatal interventions specifically targeting sexuality are still scarce (Byers-Heinlein, McCallum, Byers, & Pukall, 2019; de Pierrepont & Polomeno, 2014; Percat & Elmerstig, 2017; Woolhouse et al., 2014). Perinatal healthcare workers report a lack of knowledge and training in perinatal sexuality, and therefore seldomly address sexuality directly (Byers-Heinlein et al., 2019; de Pierrepont & Polomeno, 2014, 2015; McCallum, Byers-Heinlein, Byers, & Pukall, 2018; Percat & Elmerstig, 2017). As for couples, they usually choose not to discuss the topic with healthcare professionals and paraprofessionals, mostly due to discomfort and the assumption that the healthcare worker should be the one initiating the discussion (de Pierrepont et al., 2017; McBride & Kwee, 2017; McDonald et al., 2015).

To better understand parenting couples' sexoperinatal experience and to help fill the gap between their needs and the current sexoperinatal interventions being offered to them, this study had two objectives: 1) document and evaluate couples' needs towards perinatal sexuality; and 2) develop, implement, and evaluate a brief psycho-educational online workshop on perinatal sexuality specifically designed for future and new parenting couples.

Methods

This project was approved by the review board of the Centre intégré universitaire de santé et de services sociaux de l'Estrie – Centre hospitalier universitaire de Sherbrooke (CIUSSS de l'Estrie – CHUS). Recruitment took place in 2017 with flyers and electronic invites through perinatal associations and community organizations, perinatal health-related services, and Facebook groups related to the perinatal period, in the province of Quebec, Canada. Eligible participants had to be 18 years and older, live in Quebec, and be part of a heterosexual couple pregnant with their first child (no matter the trimester) or with a common first child aged 6 months or less. Only one member of each couple was asked to complete the questionnaire, but they were both invited to join the workshop. By contacting the principal investigator of this study by direct email, participants were invited via the secure web-based platform *Qualtrics* to access a complete information letter and an online consent form. After free and informed consent, participants completed five steps on the same platform over the course of 3 months: 1) an online baseline questionnaire (T1) assessing sociodemographic information, needs toward the workshop, and sexoperinatal knowledge, attitudes, and perceptions (30 minutes); 2) a two-hour online workshop on perinatal sexuality; 3) a one-week post-workshop satisfaction questionnaire (5 minutes); 4) one-month (T2) and 5) two-month (T3) post-workshop online questionnaires with the same measures as in T1 (15 minutes each).

The questionnaire at T1 included questions on sociodemographic variables, sexoperinatal background (attendance at workshops, classes, conferences on the subject), workshop-related needs and expectations, participation in past sexoperinatal interventions, and obstacles to discussing perinatal sexuality with perinatal healthcare workers.

Knowledge and attitudes regarding perinatal sexuality were measured at T1, T2, and T3 with *Polomeno's Perinatal Sexuality Questionnaire* (Polomeno, 2016), which has previously demonstrated face and content validity. The first 61 items are true-false questions and refer to sexoperinatal knowledge. Correct answers are summed up and the total is converted into a percentage; higher scores represent better knowledge with possible scores ranging from 0 to 100. A total score of 70% and higher represents good sexoperinatal knowledge. The last 64 items of this questionnaire refer to sexoperinatal attitudes, with a Likert-type scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Attitudes items are summed to create a total score ranging from 64 to 320; a higher score reflects more positive attitudes towards perinatal sexuality, such as more flexibility, openness, and comfort regarding the topic and related interventions.

Perceptions regarding sexoperinatal interventions were also documented with a questionnaire adapted for parenting couples, inspired by Raymond's (2008) work on healthcare professionals' practices in human sexuality. With 38 items evaluated on a 7-point scale ranging from 1 (Not at all) to 7 (Absolutely), this questionnaire assessed four subdomains of perceptions. The first two subdomains are the perceived utility and the comfort regarding 12 sexoperinatal interventions. The first items of each subscale concern the participant (i.e., perceived utility and comfort in initiating the discussion on perinatal sexuality with a professional) and the other items are all related to professionals' interventions regarding perinatal sexuality (initiating the discussion; discussing with the participant and the partner; asking questions to the participant

and the partner; informing; answering questions; suggesting solutions; evaluating the sexual health of the participant and the partner; and referring). The other two subdomains of perceptions included the intentions of being proactive and the sense of self-efficacy in being proactive regarding seven behaviors related to sexoperinatal interventions with healthcare professionals: initiate the discussion, discuss, ask questions, and ask for information, solutions, sexual health evaluations, and references. For each subdomain, mean scores are computed, with higher scores corresponding to better perceptions of sexoperinatal interventions. These better perceptions include improvements on three aspects: a greater perceived utility and comfort towards them, greater intentions of being proactive in using them, and a greater sense of self-efficacy in being proactive towards them.

The workshop involved a two-hour online workshop with presentation in broadcast. This flexible format was chosen to facilitate the participation of new and future parents who are already busy with birth preparation or baby care. The presenter had extensive training in sexology and experience in intervention. The workshop's audio file, a PDF of the workshop, and additional material were sent to all participants before the workshop. Both members of the couple were invited to take part in the online workshop, while knowing that only one partner would answer the questionnaires for this study. For each workshop, the presenter first emphasized the importance of discussing sexuality and perinatal sexuality in the context of healthcare, and then presented a range of possible sexual fluctuations during and after pregnancy (i.e., sexual desire, behavior, satisfaction), with an emphasis on various factors (physiological, psychological, social, cultural) affecting these changes. The presenter also provided specific examples of these fluctuations from pregnancy to postpartum, including the breastfeeding period. Practical advice and resources were also shared with the couples. Questions could be emailed to the presenter after the workshop. In the week following participation in the online workshop,

participants were invited to complete an online satisfaction questionnaire with 19 questions, including 16 items rated on a 4-point scale ranging from 1 (Strongly disagree) to 4 (Strongly agree), one question on general satisfaction (from 1 "Completely satisfied" to 4 "Completely unsatisfied"), and two other open-ended questions for additional comments or suggestions.

Using SPSS 25, descriptive analyses were conducted, followed by parametric repeated-measures ANOVAs to evaluate the short-term (T1 to T2) and medium-term (T1 to T3) variations in parenting couples' knowledge, attitudes and perceptions toward perinatal sexuality.

Results

Sociodemographic Information

A total of 39 participants were recruited for this study, but 6 of them dropped out at different steps of the study due to lack of time, time conflicts, and sickness (15% drop-out rate); since their data were incomplete, they were not included in the final sample. As such, 33 participants (32 women and 1 man) completed all five steps of the study. About half of them (n = 16; 48.5%) identified as a future parent and the other half (n = 17; 51.5%) as a new parent. Aged between 20 and 40 years (M=30.24; SD=4.54), participants reported a relationship length ranging from 1 to 19 years (M=6.29; SD=3.85). Additional sociodemographic information is presented in Table 1.

Parenting Couples' Sexoperinatal Needs

Only six participants (18.2%) had previously received some form of training in human sexuality (through workshops, classes and conferences) and none of them had received training in perinatal sexuality. While 16 participants (48.5%) never sought information regarding perinatal sexuality, 17 (51.5%) had done so. The sources of information previously consulted were diverse: some participants sought verbal advice (8 consulted a healthcare professional such as a doctor, a nurse or a midwife; 8 consulted their friends; and 1 consulted a family member),

and others relied on written information (14 obtained information online, 7 through a book, 4 through journals and magazines, and 1 through a flyer). Furthermore, only 9 (27.3%) participants reported that a healthcare professional discussed perinatal sexuality with them at one point. Of those, all were invited to discuss the topic during pregnancy, and two-third discussed it after pregnancy. A wide range of healthcare professionals addressed sexuality with them, including nurses, OB-GYNs and midwives. Half of those professionals discussed perinatal sexuality with the partner present. Postnatal contraception, sexual desire, and vaginal penetration were the most frequently discussed topics by healthcare professionals with participants. Participants were also asked to identify perceived obstacles to discussing perinatal sexuality with healthcare professionals. The top fives barriers were: lack of time in healthcare consultations (72.73%); perception that sexuality is not a priority for the healthcare professional (69.70%); perception that the professional lacked knowledge regarding the topic (60.61%); perception that the professional lacked training in the area (45.45%); and perception that the healthcare professional would not be comfortable discussing the subject (33.33%).

Before they participated in the workshop, future and new parenting couples reported that they wanted to learn more about many aspects of sexoperinatality. The 10 most popular topics that participants identified as important to be included in the workshop are presented in Table 2. These perinatal sexual concerns include both the physiological and the psychological domains of men's and women' s sexuality, and cover pregnancy up to the postpartum period, including the breastfeeding period. To better answer parenting couples' needs, it was assured that all topics identified would be discussed in the workshop. After exhaustive evaluation of participants' answers, all topics identified by participants were already included in the workshop's initial design, which required only minor adjustments to meet the couples' expectations.

Evaluation of the Workshop

Means and standard deviations for participants' knowledge, attitudes, and perceptions over time are presented in Table 3. Participants' knowledge at T1 is lower than the 70% cut-off point, which suggests an insufficient level of knowledge for the group before the workshop. Figure 1 shows a significant increase in knowledge on perinatal sexuality from pre- to post-workshop ($F'(1.129,36.144) = 35.615$, $p < .001$, $\eta^2p = .527$): knowledge increased one month after the workshop ($p < .001$) and remained stable in the following month ($p = .242$). Figure 2 shows a significant increase in positive attitudes towards perinatal sexuality from pre- to post-workshop ($F'(1.580,50.564) = 25.044$, $p < .001$, $\eta^2p = .439$): attitudes toward perinatal sexuality were more positive one month after the workshop ($p < .001$) and remained stable in the following month ($p = .747$).

As for the participants' perceptions towards sexoperinatal interventions, Figure 3 shows that all four subdomains were significantly higher after the workshop: perceived utility of sexoperinatal interventions ($F'(1.145,36.630) = 23.609$, $p < .01$, $\eta^2p = .425$), comfort with sexoperinatal interventions ($F'(1.325,42.410) = 6.845$, $p = .007$, $\eta^2p = .176$); intention of being proactive regarding sexoperinatal interventions ($F'(1.189,38.060) = 14.986$, $p < .001$, $\eta^2p = .319$); and sense of self-efficacy in being proactive regarding sexoperinatal interventions ($F'(1.329,42.514) = 14.473$, $p < .001$, $\eta^2p = .311$). All four subdomains increased one month after the workshop ($ps < .004$). The subdomains of perceived utility continued to increase ($p = .013$) and the other three subdomains (comfort, intentions, and sense of self-efficacy) remained stable in the following month ($p = .957$, $p = .437$, and $p = .726$, respectively).

Global satisfaction regarding the workshop was good, with 25 (75.8%) participants being very satisfied and 8 (24.2%) being rather satisfied. Participants particularly appreciated the flexibility of the workshop's formula (e.g., "The broadcast version is a very good idea too because we were able to listen to it as a couple at several moments." - free translation) and its

subject matter (e.g., “More people should have access to this information, even before you conceive a child.” – free translation). However, some participants did note that time to interact and discuss in real-time with the group leader and other participants would be a helpful addition (e.g., “Add a live discussion after the workshop to exchange.” – free translation).

Discussion

This study had two primary objectives: firstly, to document and evaluate parenting couples’ needs towards perinatal sexuality, and secondly, to develop, implement, and evaluate an online workshop on perinatal sexuality tailored for future and new parenting couples. Results from this sample support an important need in parenting couples for sexoperinatal knowledge and interventions during and after pregnancy. The findings also show that a brief, online workshop on perinatal sexuality can be useful in improving knowledge, attitudes, and perceptions regarding perinatal sexuality in parenting couples, and could contribute to addressing their needs regarding changes in sexuality before and after pregnancy.

Parenting Couples’ Sexoperinatal Needs

This study first reveals that future and new parenting couples have a genuine need for knowledge related to perinatal sexuality. Participants’ average knowledge scores were lower than the 70% cut-off point on the Polomeno’s scale (2016) before attending the workshop, suggesting that participants may benefit from receiving additional information regarding perinatal sexuality. While the need for sex education during and after pregnancy has been stressed by many authors (Bahadoran, Mohammadi Mahdiabadzade, Nasiri, & GholamDehaghi, 2015; Corbacioglu Esmer, Akca, Akbayir, Goksedef, & Bakir, 2013; Heidari, Amin Shokravi, Zayeri, & Ali Azin, 2017; Heidari, Amin Shokravi, Zayeri, Ali Azin, & Merghati-Khoei, 2018), our results suggest that future and new parenting couples have a relatively poor knowledge base with respect to sexuality

during and after pregnancy, and that researchers' recommendations may not be translating into practice.

Considering their need for knowledge, it is not surprising that prior to the workshop, half of our participants had sought sexual information on their own in order to learn about the potential sexual fluctuations during and after pregnancy. In this sample, different sources were used to gather such information, including the Internet, healthcare professionals, and friends. This finding is consistent with other studies claiming that parenting couples have a strong desire to gain knowledge about perinatal sexuality through those same various sources to help them make a smoother transition to parenthood (Corbacioglu Esmer et al., 2013; de Pierrepont et al., 2017; Woolhouse et al., 2014).

Despite their desire to be informed, less than a third of our sample reported having a healthcare professional discuss perinatal sexuality with them at some point during or after pregnancy. This proportion compares with percentages reported in previous studies, with 21.0% to 23.8% of participants reporting having received information or discussed perinatal sexuality during pregnancy with a healthcare worker (Corbacioglu et al., 2013; de Pierrepont et al., 2017; Heidari et al., 2017). This result also resembles those of previous studies focusing on the postpartum period, with less than one quarter of women being asked directly by a healthcare professional about sexual health or relationship problems in the months following birth (McDonald et al., 2015; Woolhouse et al., 2014). This study adds to the growing evidence that sexoperinatal interventions, while needed, are still scarce in the perinatal healthcare domain (Byers-Heinlein et al., 2019; de Pierrepont & Polomeno, 2014; Percat & Elmerstig, 2017; Woolhouse et al., 2014).

These low percentages regarding discussions about sexuality may be explained by multiple obstacles related to discussing perinatal sexuality freely and openly with healthcare

workers. Our participants identified several barriers to sexoperinatal interventions, many of which have been documented in previous studies (de Pierrepont et al., 2017; McBride & Kwee, 2017; McDonald et al., 2015), including lack of time in healthcare consultations. This study also identified additional barriers which require further attention. For example, many participants perceived that professionals would not be comfortable discussing sexuality. Whether this perception reflects a true discomfort in health professionals or an assumption of discomfort by the participants is unknown, but this finding suggests that targeting health professionals' comfort level and competence in confidently addressing sexuality might be a promising avenue to reduce new parents' inhibition regarding sexuality discussions.

Sexoperinatal Workshop

To better answer future and new parenting couples' needs for sexoperinatal education, we developed an online workshop based on participants' needs and examined whether participation in this workshop would improve sexoperinatal knowledge, attitudes, and perceptions in new parents. Our findings suggest that a brief online intervention may be helpful in this regard—that is, after the workshop, knowledge and attitudes regarding sexuality in new and future parenting couples improved significantly, as reflected by large effect sizes for all the results. Since almost all participants demonstrated a good level of knowledge after participating in the workshop, our findings suggest that the workshop is likely effective in improving participants' sexoperinatal knowledge. Nonetheless, the results of this study are difficult to compare with those of other studies on sexoperinatal education. The few recent studies on the subject did not document participants' level of knowledge, but rather assessed the direct impact of sexoperinatal interventions on the sexual function of women (Navidian, Kykhaee, Imani, Taimoori, & Soltani, 2017) or couples (Bahadoran et al., 2015; Heidari et al., 2017; Heidari et al ., 2018). Our results complement those of other studies and suggests that interventions targeting sexoperinatal

knowledge of couples may be another way of contributing to the sexual well-being of couples. As Sossah (2014) pointed out in her correlational study with 170 women in the Philippines, there are significant links between women's knowledge and sexual behavior during pregnancy, with less knowledgeable women having less frequent sexual behavior. Since this workshop improved participants' knowledge on perinatal sexuality, it is possible to speculate that positive repercussions on the participants' sexual lives could be expected after the completion of this workshop. Furthermore, since participants' knowledge is maintained over time after the workshop, this gain in knowledge is likely to be useful during a second pregnancy, once again promoting the sexoperinatal adjustment of parenting couples.

Moreover, not only were participants more knowledgeable, but they also had a more positive attitude towards perinatal sexuality. Mainly, after the workshop, participants were more flexible, open and comfortable with the subject, which can potentially contribute to the development of better adaptation and coping skills needed in times of sexual changes. These findings add to the literature because attitudes towards perinatal sexuality have received little empirical attention, with the exceptions of studies rooted in different cultural contexts (Philippines for Sossah, 2014; Iran for Navidian, Navabi Rigi, & Soltani, 2016), which makes it more difficult to justly compare. The few available studies did find an association between a negative attitude toward perinatal sexuality and less frequent sexual behaviors, which highlights once again the usefulness of the workshop developed for this study to promote a positive attitude towards sexoperinatality and thus, foster better sexuality during the perinatal period for parenting couples.

All perceptions regarding sexoperinatal interventions also changed after the workshop, including increased perceived usefulness and comfort towards sexoperinatal interventions, intentions to be more proactive in sexoperinatal interventions, and an improved sense of self-

efficacy in being proactive in sexoperinatal interventions. Since no previous studies have examined perceptions regarding sexoperinatal interventions, hence the possible lack of data comparison with other studies, those dimensions should still be considered important exploratory variables in the perinatal context. Nevertheless, with more knowledge, more comfort and a more positive attitude toward perinatal sexuality, participants in this study tended to give more importance to sexoperinatal interventions after the workshop, as can be seen with the increase in perceived usefulness of those interventions. They felt that professionals should initiate, discuss, inform, and evaluate more both members of couples regarding perinatal sexuality, since the subject is now considered an integral part of their parenthood adaptation. Participants were also more comfortable with sexoperinatal interventions—that is, including perinatal sexuality in perinatal healthcare regular discussions seemed to be less taboo and more accepted and encouraged by parenting couples.

Moreover, this workshop fostered parenting couples' empowerment. After the workshop, participants tended to be less hesitant to take an active role in sexoperinatal interventions to respond to their own needs, through intentions of being more proactive and a better sense of self-efficacy of being proactive. After the workshop, participants tended to perceive a greater usefulness in initiating the discussion on perinatal sexuality with professionals, while being more comfortable doing so. They hesitated less when initiating the discussion if necessary and they are more willing to discuss, but also ask questions and ask for sexual health evaluation and references to professionals. While doing so, parenting couples can possibly better respond to their initial need for information regarding perinatal sexuality. In sum, this two-hour online workshop demonstrated a potential to inform but also empower parenting couples regarding sexoperinatal interventions.

Global satisfaction toward the workshop was good. Some participants commented that the flexibility of the workshop's format was a great strength of this study, whereas others would have preferred additional time to discuss live in groups or with the presenter. Our brief online workshop has a great potential to simplify the sexoperinatal training of parenting couples, notably with the broadcast presentation, which better accommodates parents' schedules and resources during and after pregnancy. Bahadoran and colleagues (2015) stated that the specific type of sexoperinatal education did not matter but that the education itself led to an improvement of men's, women's and couples' sexual function during pregnancy. A more flexible form of education as proposed by this study could therefore be privileged to improve knowledge, attitudes and perceptions on perinatal sexuality. Since there are significant associations among knowledge, attitudes, and behaviors in the matter of sexuality during pregnancy (e.g., Sossah, 2014), a brief and accessible online workshop targeting the improvement of those same variables is another step toward the promotion of sexoperinatal well-being in future and new parenting couples.

Limitations

While original and innovative, this study bears some limitations. Most participants were women (32 out of 33). Whereas more than half of the male partners did attend the workshop (as reported by the women), they did not complete the questionnaires. As such, our results mainly reflect women's sexoperinatal education and we do not know the extent to which men benefited from taking part in our workshop. Nevertheless, Heidari and colleagues (2018) have pointed out that focussing on women's education during pregnancy is sufficient to improve the couple's sexuality. Future research should include a dyadic design including both partners to offer a more comprehensive portrait of both partners' experience of sexoperinatal education. Future research could also benefit from including a more diverse sample of parenting couples, without restricting

access to heterosexual cisgender couples. While there may be differences between the realities of different couples to take in consideration, perinatal sexuality should be addressed with all couples (e.g., lesbian couples, gay couples using a surrogate, couples including a trans partner).

Another limitation relates to the absence of measures regarding the couples' sexual behaviors, function, and satisfaction before and after the workshop. Gathering this data would allow the examination of sexual functioning and well-being after training, which was not the focus of this study. Since knowledge is associated with better sexual functioning during pregnancy (e.g., Sossah, 2014), this study is a first step in efforts to provide sexoperinatal education, improving attitudes and perceptions of parenting couples, which are also closely linked to knowledge, to possibly have an indirect impact on the couple's sexual life.

Other limitations include the small sample (N=33), the absence of a control group, the use of self-reported measures only, and the heterogeneity of the sample, since not all participants were at the same month of pregnancy or postpartum period.

Implications

To more efficiently address future and new parenting couples' needs for information on perinatal sexuality during and after pregnancy, this brief online workshop could be formally included in perinatal monitoring activities, including medical follow-ups but also pre- and postnatal courses offered to parenting couples (e.g., Lamaze classes). For couples experiencing more challenging sexual fluctuations, additional direct support could be added to this workshop. This workshop is an additional tool for perinatal healthcare workers that is simple to refer to and use, possibly facilitating subsequent discussions with couples completing the online workshop.

Furthermore, parenting couples' needs related to information, support and interventions regarding perinatal sexuality point to the importance of more awareness and training in perinatal sexuality for perinatal healthcare workers, from childbirth educators to obstetrician-

gynecologists, family doctors, nurses, midwives, doulas, breastfeeding consultants, and pelvic floor physical therapists. Perinatal sexuality is an important subject for parenting couples and healthcare workers can become essential resources for those in need. Different forms of training could be included in perinatal healthcare workers' formal training or be part of continuing education courses and scientific workshops. A recent study has indeed revealed the efficacy of a short training on perinatal sexuality for increasing knowledge among nurse, midwives, and doulas (Blinded for review). Further studies could replicate and extend these results to all types of perinatal professionals. By promoting better support on perinatal sexuality offered to parenting couples, perinatal standard care could benefit from a more holistic approach to health and family.

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Table 1. Participants' sociodemographic profile.

Variables	***N* (33)**	**%**
Relationship status		
• Married	10	30.3
• Common Law	23	69.7
Religious affiliation		
• Roman Catholic	11	33.3
• No religion	21	63.6
• Other	1	3.0
Ethnic/cultural background		
• Canadian	31	93.9
• French	1	3.0
• Other	1	3.0
Level of education		
• Secondary and professional diploma	1	3.0
• College	7	21.2
• Undergraduate studies	10	30.3
• Graduate studies	15	45.5
Type of delivery (new parents only: *n=17)*		
• Spontaneous vaginal	12	-
• Vaginal with assistance	3	-
• Emergency caesarean	2	-

Table 2. Most popular sexoperinatal topics that parenting couples wanted to be included in the workshop.

Topics	***N* (33)**	**%**
Return to sexuality after birth (when, steps to follow)	32	97.0
Sexual desire	31	93.9
Changes in the vagina	29	87.9
Body image and sense of desirability	26	78.8
Breastfeeding and its impact on sexuality	26	78.8
Vaginal penetration	24	72.7
Beliefs, fears, and considerations towards sexuality	24	72.7
Impact of fatigue on sexuality	24	72.7
Sexual problems in women	22	66.7
Breasts of the pregnant and breastfeeding women	22	66.7

Table 3. Means and standard deviation of knowledge, attitudes and perceptions over time.

	Before workshop (T1) *M* (*SD*)	1-month post-workshop (T2) *M* (*SD*)	2-month post-workshop (T3) *M* (*SD*)
Knowledge	67.31 (6.41)	83.81 (13.70) *	84.65 (12.96)
Attitudes	187.00 (17.06)	210.99 (26.99) *	211.91 (30.88)
Perceptions of sexoperinatal interventions			
- Perceived utility	5.14 (0.94)	6.15 (0.89) *	6.34 (0.78) **
- Comfort	5.44 (1.11)	6.14 (0.94) **	6.10 (1.22)
- Intentions	4.06 (1.31)	5.30 (1.81) *	5.37 (1.79)
- Sense of self-efficacy	4.63 (1.65)	5.85 (1.57) *	5.78 (1.61)

* $p < .001$. ** $p < .05$.

Fig. 1. Knowledge toward perinatal sexuality.

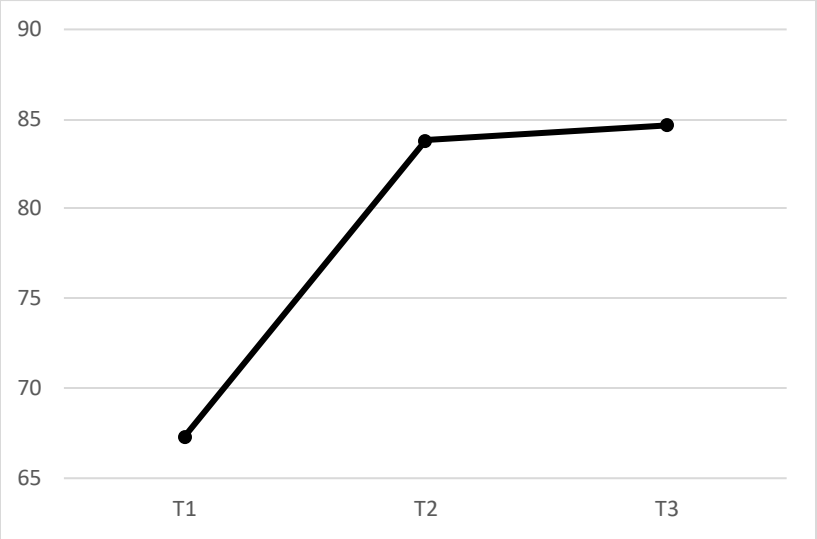

Fig. 2. Attitudes toward perinatal sexuality.

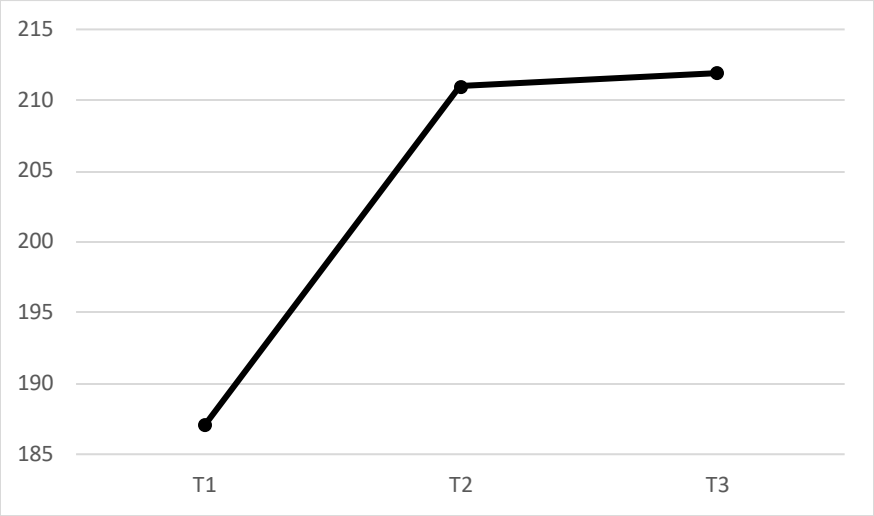

Fig. 3. Perceptions towards sexoperinatal interventions.