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Patient Experience with Postpartum Pain Management in the Face of the Opioid Crisis

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Abstract

Introduction: Professional societies have urged providers to reduce opioid use for pain management. Accordingly, the objective of this study was to assess patient experiences related to postpartum pain management in an effort to better understand potential paths to achieve such a reduction.

Methods: This is a planned secondary analysis of a prospective observational study of opioid use following birth. In the primary study, women who received opioids as inpatients were queried about their pain management, including questions about pain experience, pain satisfaction, perceived areas for practice improvement, and the opportunity to leave additional comments. Participants who were prescribed opioids upon discharge completed postdischarge surveys with a similar opportunity for qualitative input. Data were analyzed using the constant comparative method to identify themes and subthemes.

Results: Of the 493 women enrolled in the primary analysis, 125 provided qualitative data. Three overarching themes regarding pain management were identified: positive experiences (n = 22), negative experiences (n = 19), and beliefs and preferences on opioid use and pain management (n = 28). Women with positive experiences reported satisfaction with timely pain medication administration and appreciation of open dialogue with their care team. In contrast, several negative experiences centered on tardy administration of pain medications, resulting in increased pain. Patients also perceived judgment, accusation, and excessive lecturing by staff when requesting opioid medications. Finally, participants expressed the necessity for opioids for postpartum pain management, as well as their desires for limiting opioid use, improved options for multimodal pain management, and increased communication with providers about pain regimens.

Discussion: Understanding women's perspectives and experiences regarding postpartum pain control is essential to improving care. Amid growing research on the role of maternity care providers in addressing the opioid crisis, women's voices are rarely solicited. These findings stress the importance of open and frequent dialogue between patients and providers and a need for multimodal pain management options.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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INTRODUCTION

Opioid use in the United States has reached epidemic proportions; the rate of opiate-related deaths has quadrupled since 1999.[1] This trend is paralleled by a 3-fold increase in opioid prescriptions in the United States from 1999 to 2015.[1] Indeed, recent data indicate that opioid prescriptions are common among women in the postpartum period, with 85% of women who have a cesarean birth[2] and 29% of women who have a vaginal birth[3] receiving an opioid prescription following hospital discharge. As childbirth is the most common reason for hospitalization in the United States,[4] a better understanding of peripartum pain control along with opioid use will be impactful.

Professional societies have supported interventions to reduce unnecessary opioid use and to individualize pain management in the postpartum setting,[5–8] and multiple studies attempting to achieve these aims have been published.[9] One such intervention consisted of increasing reliance on ibuprofen (Advil) and acetaminophen (Tylenol), eliminating routine ordering of oral opioids after birth, creating guidelines for ordering short courses of opioids when necessary, and coupling opioid prescribing at discharge to patterns of inpatient use.[10] Although perinatal care providers are encouraged to limit opioid prescribing,[5] how this approach has affected women's postpartum experience is unknown. Patient perspectives on preferences regarding postpartum pain management are similarly lacking. Understanding the postpartum pain experience will inform future implementation studies on pain management by providing an essential missing piece: women's voices and perspectives.

Given the current opioid crisis, health care providers and patients are faced with the critical balance of appropriately treating pain without overreliance on opioids. Thus, the purpose of this study was to identify the experiences and perspectives of women in the postpartum period on pain management following birth.

METHODS

This is a planned secondary analysis of qualitative data from a prospective, mixed-methods observational study of opioid use after birth designed to assess patient experiences related to postpartum pain management. This study took place at Northwestern Memorial Hospital, a large academic medical center in Chicago, Illinois, from May 2017 to August 2019. Quantitative data were collected in the primary study, and participant surveys from the primary study were used to characterize the population. Only open-ended qualitative responses were analyzed in the present analysis. All participants provided written, informed consent. This study was approved by the Northwestern University Institutional Review Board and registered with Clinicaltrials.gov (NCT03030742).

Women were eligible if they were admitted following vaginal or cesarean birth, were at least 18 years old, were English-speaking, and had received oral opioid medications during

the postpartum admission. Exclusion criteria included use of general anesthesia for birth without concurrent neuraxial analgesia, performance of hysterectomy or other unanticipated surgical procedures during postpartum hospitalization, morphine allergy, contraindication to nonsteroidal antiinflammatory drug use, or chronic opioid use prior to birth. Chronic opioid use for the purposes of this study was defined as an active opioid prescription at hospital admission. Patients requiring postpartum intensive care unit care were ineligible to participate.

During the study period, postpartum analgesia orders were placed using an electronic system that incorporated standardized postpartum order sets with ibuprofen 600 mg scheduled every 6 hours and acetaminophen 650 mg every 6 hours pro re nata. Opioid orders were not a part of the inpatient vaginal birth order set and required that an order be written specifically for their administration; when opioids were prescribed in this context, prescribers could choose the type, dose, and frequency. In contrast, the order set following cesarean birth included the option to add oxycodone 5 to 10 mg every 4 hours pro re nata. Discharge prescriptions for pain medications are at the discretion of discharging providers.

Trained research assistants reviewed electronic health records to determine eligibility and approached patients in their single-occupancy hospital rooms during their postpartum hospitalization on postpartum days 1 to 3. Notably, research assistants were not involved in the provision of patient care, and patients were not approached by members of their care team for participation in the study. All participants provided written informed consent. Consented participants completed a 10-minute self-administered survey regarding postpartum pain satisfaction, opioid medication use, and satisfaction with care (predischarge survey). As a component of this survey, all participants were given space to provide voluntary qualitative feedback about their pain experience. Specifically, the open-ended prompt read, “Please use this space for any additional comments you would like to make about your experiences with pain medication and pain control.” Women were informed that their responses would be deidentified and would not be shared with their providers. Data from surveys were entered into Research Electronic Data Capture (REDCap),[11] a secure online data-management platform. Additional demographic, clinical, and pharmacologic and prescription data were abstracted from the electronic records.

Those participants who completed the initial survey and who received an opioid prescription at discharge were eligible to complete a second brief survey 2 to 4 weeks following discharge (postdischarge survey). The survey was distributed by email using secure REDCap messaging. This secondary survey similarly contained a space for voluntary qualitative input. Participants were sent 3 survey reminders, after which participants were considered lost to follow-up. Participants received $5 gift cards following completion of each survey. Participant-generated qualitative comments from both pre- and postdischarge surveys were collected and analyzed verbatim using the constant comparative technique, a modified version of the grounded theory.[12–14] In the constant comparative technique, research personnel iteratively read qualitative data and note recurring concepts, called subthemes. These subthemes are organized into broader themes. Research personnel reviewed, negated, and reorganized data until agreement on all themes and subthemes was reached. Because patient satisfaction with their pain management was collected quantitatively and because this

qualitative analysis was designed to evaluate tangible perspectives on patient satisfaction with pain management, nonsubstantive comments that did not provide insight into any aspect of the analysis (eg, “Great stay!”) were excluded from analysis. The sample size for this analysis was restricted to the sample size available for the primary study. Results of the qualitative data review, with the frequency of subthemes and direct quotations as examples, are described below.

RESULTS

During the study period, 493 women consented to participation in the primary quantitative study and completed a predischarge survey. A total of 153 of these women received an opioid prescription at discharge and completed a postdischarge survey. Of these participants, 125 women (n = 114 predischarge; n = 26 postdischarge) voluntarily left comments on one or both surveys and were included in this analysis. Aside from nonsubstantive comments described in the Methods above, all comments were included in qualitative data analysis.

Table 1 displays characteristics of participants who provided qualitative responses. Participants leaving comments were more likely to be younger (32.9 [4.8] years vs 34.1 [4.3] years; $P = .01$) and to report being dissatisfied or very dissatisfied (8.8% vs 2.7%; $P = .01$) with their overall postpartum pain management experience. Other characteristics such as self-reported race and ethnicity, marital status, education, employment, and cesarean birth were not significantly different between the groups.

Participant comments were organized into 3 broad categories: (1) positive health care experiences with pain management, (2) negative health care experiences with pain management, and (3) beliefs and preferences about opioid use and pain management. These themes, along with associated subthemes, are displayed in Table 2 with example quotations.

Positive Health Care Experiences with Pain Management

The first category of qualitative data represents participants’ positive experiences with pain management in the postpartum period. Several participants felt their pain was adequately managed because of *the timely administration of medications by nurses*, a sentiment expressed by women regardless of whether they had undergone vaginal or cesarean birth. Women noted the positive effect of timely administration of pharmacologic analgesia, which they felt prevented the need to “chase the pain” (ie, medicate to prevent acute pain onset after a prior dose of medication had lost its potency). The subtheme of timely medication administration was often mentioned in tandem with participants’ *appreciation for open dialogue and understanding from staff*. Participants appreciated conversations with providers in which their pain was assessed and pain management options were provided. One participant wrote:

> I’ve felt incredibly respected and heard during the entirety of our stay here. I’ve been asked at every turn how I’m doing/feeling, what is needed, for pain management and my overall care. I couldn’t be happier than I am with the concern and care shown here–top notch.

Other participants described their satisfaction with their physicians encouraging opioid usage when strong pain necessitated it:

> Felt hesitant (uncomfortable) to ask for stronger pain meds when Tylenol and Motrin weren't doing enough. Nurse seemed resistant to do anything when I said my pain was too high/the above weren't controlling it. My OB was very accommodating when I explained it to her, made me feel like it was okay.

Additionally, several women appreciated staff checking in with them and making adjustments to their pain regimens, or adjusting the strength of pain medications when necessary, saying, "Doses where [sic] reduced as the pain level decreased, which was helpful."

Negative Health Care Experiences with Pain Management

Many participants' comments reflected negative aspects of their pain management experience during their postpartum hospitalization as well as after discharge. In distinction to the subtheme of *satisfaction with timely medication administration*, participants expressed their dissatisfaction with the *tardy administration of opioid medications, resulting in unmanaged pain*. One participant described having to remind staff to administer her pain medication:

> Pain medication was never put into the system. After having a C-section, I needed pain meds. The doctors forgot to put the order in. The nurses paged over and over and could not give me medicine until the doctor called back. Medicine was given every 6 hours so the pain would come back before I received medicine. Also, I had to remind and call the nurse sometimes for it.

The most common negative pain management experience women had was of *perceived judgment, resistance, and accusations from staff regarding opioid usage*. Regardless of whether a woman had a vaginal or cesarean birth, they sometimes perceived that their health care providers treated them with suspicion when they requested opioid pain medications. One woman wrote:

> I had extraordinary pain after my induction; 29 hour labor; C-section. When I explained that the drug plan didn't seem to be working I was warned about addiction. This was 12 hours after massive surgery. Turns out I had a significant uterine infection which was compounding the pain. Women's bodies are amazing but they shouldn't be treated like machines meant to do a job. I deserved (like anyone else) to have a plan to manage pain, but it was met with resistance and accusations. Unappreciated.

Several women described experiences with *ongoing pain postdischarge from the hospital*. Despite being prescribed opioids and over-the-counter (OTC) pain relief medications, some women still struggled to adequately manage their pain with their prescribed regimens. One participant wrote of her struggles with pain control on her postdischarge survey:

> Tried to stop taking Norco after 14 days but pain was still too bad so continued for a few more days at half the dose (1 10mg pill twice daily). At 3 weeks

> pain was manageable with OTC NSAIDs [nonsteroidal anti-inflammatory drugs]; discontinued all regular meds at 4 weeks.

In many cases, women felt they did not have the resources to properly manage their pain. One such participant wrote about her hesitancy to request more pain medications from her physician after being discharged home, additionally highlighting a previous subtheme of perceived judgment by her health care team:

> Overall the Norco prescription wasn't for long enough to cover pain after surgery but I didn't want to call for more pills because it seemed so difficult because it was so hard to get even the right dose at the hospital. It just felt very discouraging, like I was doing something wrong for wanting my pain controlled.

Beliefs and Preferences on Opioid Use and Pain Management

Participants expressed various beliefs and preferences regarding opioid usage and pain management on both the hospitalization and postdischarge surveys. Two women described *opioid usage as a requirement for postbirth pain management*; however, *hesitancy to take opioids, even when prescribed*, was also prevalent among this cohort of women. As one woman wrote, "I prefer to use OTC pain medication (Advil, Tylenol), so my use of opioids has always been very limited to just 1–2 after surgery, procedure, etc." Frequently, the desire to limit opioid usage was due to known side effects such as constipation, nausea, or having a "heavy head feeling" or concern about developing dependence on the medications. One patient said:

> I have only used an opioid pain medication which was prescribed and have only done this for one dose or possibly two doses, however, due to opioid pain medication causing me sickness I have discontinued use and declined use following those.

Additionally, women worried about opioid medications affecting their newborns; for example, one participant wrote,

> I've had more pain for this c-section than my first. But I stopped taking Norco after about the 4th day because it seemed my baby was sleeping more and I thought she was being affected by it.

The desire to limit opioid usage was highlighted by participants' *desire for multimodal pain management techniques*. Such desired techniques included more comfortable hospital beds, abdominal binders, and ice packs.

A fourth preference cited by women in this cohort was the desire for *more frequent check-ins and dialogue with their health care providers*. This was a cross-cutting theme that was present in numerous other subthemes and notable regardless of mode of birth. In many cases, patients' positive experiences with pain management were attributed to open and frequent communication between staff and the patient, as described in the subtheme regarding patients' appreciation of open dialogue. However, many women explicitly stated a desire for more frequent communication with their providers: "I believe daily assessments should be made if medication is working in order to make changes and have patients

satisfied." Another patient wrote of her desire for increasing transparency and education regarding opioid prescribing patterns:

> In the hospital I was in a lot of pain. On the 3rd day I finally asked for something stronger and I was given a double dose of oxy which I needed. I weened [sic] myself off it over the next week which was easy to do. I understand and appreciate them not over prescribing pain med, but no one talked about why and I think that is a conversation that would be ok to have with patients upfront.

The desire for increased communication between patients and providers also encompassed patients' desires for more opioid-related education: "I would like more information on how to dispose of unused pills. I did not use them due to the side effects making me sleepy and I have to care for new baby and toddler at home."

DISCUSSION

This analysis highlights women's positive experiences, negative experiences, and beliefs and preferences with regard to postpartum pain management during the early postpartum period. Although providers are recommended to limit and individualize prescription of opioid medications in the midst of the opioid use epidemic,[5–8] the consequences of these practices on patients' experiences is limited. These data suggest the importance of future research on postpartum pain management and guideline implementation that is centered on women's experiences. Additionally, improved patient-centered education prenatally may better equip women to navigate their postpartum pain experience.

Qualitative data about women's experience with labor pain have highlighted the importance of providing women with information regarding available pharmacologic and nonpharmacologic methods of labor pain management[15]; however, these studies have not extended their assessment to the postpartum period. Indeed, data regarding women's experience with pain in the postpartum period are limited. Grossman et al examined the pain experience of 42 women following early medical abortions.[16] Similar to our findings, many of the participants reported that counseling and education about pain management resulted in an improved experience with pain. Increased patient education surrounding expectations of postpartum pain, functional limitations, and available pharmacologic and nonpharmacologic modalities for pain management may improve postpartum experience with pain. Another qualitative study of 185 women that examined women's pain experiences following induced abortions identified a theme of dissatisfaction with pain management.[17] Subthemes related to dissatisfaction echoed those identified in our study and included insufficient pharmacologic pain treatment, late administration of or prolonged wait for pain medication administration, and insufficient attention from health professionals. These data indicate that inclusion of women's values, priorities, and experiences in the management of pain is essential to providing patient-centered care during the postpartum period.

Existing literature indicates that there are notable racial disparities in postpartum pain management. Work by Johnson et al[18] indicates that Black, Asian, and Hispanic women received fewer pain assessments than non-Hispanic white women and received less opioid pain medication both 0 to 24 and 24 to 48 hours postpartum. A study conducted by

our group[19] similarly found that although Hispanic and Black women were more likely to report higher pain scores compared with those of non-Hispanic white women, they received a lower amount of opioid as inpatients and were less likely to receive an opioid prescription at hospital discharge. There are limited data evaluating how these quantitative findings translate to patient experience. Our findings suggest that some women experienced negative pain management interactions, but the sample size and nature of qualitative work preclude a fuller understanding of whether these experiences differed by self-reported race or ethnicity. Future research should investigate how women's experiences with postpartum pain management differ by race, ethnicity, and socioeconomic status and allow a foundation from which equitable systems and policies can be created that can guard against these disparities.

Strengths of this study include the prospective nature and the diverse population of women in the postpartum period. Additionally, collecting deidentified survey responses encouraged participants to share their experiences with pain management candidly. Limitations of this study include the sample size, which precludes subgroup analyses by demographic and clinical characteristics, and the nature of written responses, which does not allow for relevant real-time follow-up questions, known as *probes* in qualitative work. Future work may employ purposeful sampling and in-person interviews to perform more in-depth qualitative analysis. Additionally, this study was conducted in a single academic medical center, potentially limiting the generalizability of the findings. However, the goal of qualitative research is not to be generalizable to all settings, but rather to be an inductive discovery process that generates ideas and hypotheses for future more broadly generalizable investigations. Furthermore, as demonstrated in the characteristics of those who chose to leave written responses, it is likely that our data are subject to response bias, in which those who chose to respond were more likely to have either positive or negative experiences, and thus neutral experiences may be less likely to be reflected; this potential bias may be eliminated by future purposive sampling approaches. Additionally, because of limited bilingual research staff for this study, non-English-speaking women were excluded from participating, potentially limiting the breadth of pain management experiences.

Providing appropriate and patient-centered pain management requires an understanding of women's perspectives about and preferences for postpartum pain control. Our findings stress the importance of frequent dialogue between patients and providers regarding pain management and patients' desires for nonpharmacologic pain management techniques. For example, participants from this study suggested increased use of cold packs, abdominal binders, and more comfortable hospital beds for postpartum pain relief. Our findings also highlight the potential negative responses patients may face from health care providers when inquiring about or using opioid medications for postpartum pain management. Although opioid prescribing and usage should be done in a goal-oriented and thoughtful manor, adjuvant opioid use may be an important piece of some women's postpartum pain management. We thus suggest that by soliciting patients' voices throughout the process of postpartum care, health care providers will be better able to manage patients' pain and improve patient satisfaction with care.

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Quick Points

- Many participants reported positive experiences with postpartum pain management while hospitalized, attributing nurses' timely administration of pain medication and open communication about their pain management regimen.
- Conversely, other participants had negative experiences with postpartum pain management, with prominent subthemes related to late administration of pain medications and perceived resistance and judgment regarding opioid use.
- Participants offered beliefs and preferences regarding optimizing opioid use and pain management, including desire for alternative nonpharmacologic pain management techniques, that opioids are crucial to postbirth pain management, and conversely, that opioid use should be avoided unless absolutely necessary.
- These data suggest the importance of future research on postpartum pain management and guideline implementation that is centered on women's experiences.

Table 1.

Patient Characteristics Based on Provision of Qualitative Responses on the Pre- and Postdischarge Survey[a]

Charasteristics	No Comment n = 386	Any Comment n = 125	*P* Value
Age, mean (SD), y	34.1 (4.3)	32.9 (4.8)	.01
Race and ethnicity			.59
Non-Hispanic white	235 (63.9)	71 (56.8)	
Non-Hispanic Black	47 (12.8)	18 (14.4)	
Hispanic	56 (15.2)	26 (20.8)	
Asian	28 (7.6)	9 (7.2)	
Other	2 (0.5)	1 (0.8)	
Marital status			.13
Married or member of unmarried couple	331 (90.4)	107 (85.6)	
Single, divorced, or separated	35 (9.6)	18 (14.4)	
College graduate or greater	300 (81.5)	96 (76.8)	.25
Employment [d]			.35
Employed outside the home	303 (83.0)	100 (80.0)	
Student	3 (0.8)	3 (2.4)	
Work at home or unemployed	59 (16.2)	22 (17.6)	
Planned pregnancy	298 (81.2)	96 (78.7)	.54
Mood disorder diagnosed before or during pregnancy [e]	67 (18.2)	21 (17.2)	.80
Smoking [f]	24 (6.5)	4 (3.2)	.17
Cesarean birth	309 (83.7)	105 (84.0)	.95
Overall pain satisfaction [g]			.01
Satisfied or very satisfied	316 (86.3)	99 (79.2)	
Neutral	40 (10.9)	15 (12.0)	
Dissatisfied or very dissatisfied	10 (2.7)	11 (8.8)	

[a]Data presented as n (%) unless otherwise noted.

[b]Total n = 493.

[c]Total n = 491.

[d]Total *n* = 490.

[e]Total n = 489.

[f]Defined as any smoking of cigarette from the 3 months prior to pregnancy through anytime during pregnancy.

[g]Overall pain satisfaction was measured on a Likert scale of very satisfied to very dissatisfied.

Table 2.

Postpartum Pain Experiences Reported by Women Prescribed Opioids for Postpartum Pain Management

Themes	Subthemes	n	Exemplary quotations
Positive health care experiences with pain management	Timely administration of medications by nurses	11	"I believed the nurses helped greatly in ensuring I had my Motrin every 6 hours and asking whether I needed Tylenol or Norco during interim periods. Because they were diligent with the schedule, I believe my pain was appropriately managed." "I had a great experience and they managed medication perfectly and in a timely fashion."
	Appreciated open dialogue and understanding from staff	11	"Felt hesitant (uncomfortable) to ask for stronger pain meds when Tylenol & Motrin weren't doing enough. Nurse seemed resistant to do anything when I said my pain was too high/the above weren't controlling it. My OB was very accommodating when I explained it to her, made me feel like it was okay." "Wish I was encouraged to take Norco more frequently. Tried to take primarily Motrin and Tylenol. As a result, I was in terrible pain, unable to move last night. This morning, the doctor encouraged me to take Norco and I feel 10 times better."
Negative health care experiences with pain management	Tardy administration of opioids by staff resulted in unmanaged pain	4	"Each nurse seems to have a diff philosophy about taking Norco. Some supply it right on time every 4 hours so I don't have to 'chase the pain' (a phrase they taught me) and others won't provide it until I ask for it-and then it takes me at least an hour to feel better, which is excruciating. I'd prefer if everyone shared the same philosophy!" "The only challenge has been inconsistency around timing depending on when nurse is on staff. It's hard to stay on top of my pain control when info is not transferred between shifts."
	Perceived resistance, judgment, and accusations from staff regarding opioid usage	10	"I was disappointed to find out how hard it was to get medicine stronger than Motrin. I was in 8 Pain and a resident would NOT give me anything. It made my first night awful. My nurse said it was just happening because of the opioid problem which is just frustrating. I didn't get pregnant and deliver a baby to get 4 Norco." "After this delivery versus my previous ones, there is definitely more of a stigma/need to ask and provide ample details in getting pain medications. All three births of mine have been C-sections."
	Prolonged pain postdischarge from hospital	5	"I am still in pain at nearly three weeks [after] a third degree tear. I have finished my antibiotics and opioids but am still taking Tylenol and Ibuprofen. Hoping the pain will stop soon." "Pain was intense for the first 14 days solid, tried to limit Norco use and only take Motrin. Have continued to have pain since, just not as intense. I have had to take a few Norco after the first two weeks. Still experiencing pain to this day."
Beliefs and preferences on opioid use and pain management	Opioids are required for postcesarean pain management	2	"A C-section is major abdominal surgery. Opioids should be offered early in the pain management process to mitigate pain. I do not believe that the pain can be appropriately managed with only Tylenol and Motrin." "When [opioids are] necessary, they're necessary."
	Hesitancy to take opioids even when prescribed	14	"I've had more pain for this c-section than my first. But I stopped taking Norco after about the 4th day because it seemed my baby was sleeping more and I thought she was being affected by it. Then I switched to Motrin (600 mg), but it didn't alleviate all the pain." "I take medication only when prescribed. Sometimes I stop using it before it ends because I don't want to be dependent of a pain medication. I try to stay away from pills."
	Desired multimodal pain management	3	"I would like better pain relief other than meds such as something to better hold up belly, ice, and more comfortable beds." "My pain has been well controlled with medications postpartum, but it wasn't until post-partum day 2 that they brought me an abdominal binder, which would have been nice to have used earlier."
	Desired more frequent check-ins and dialogue	9	"You don't really know what you need until you need it which can be frustrating. More guidance based on how everything w/ C-section went might be helpful in reducing the trial & error phase which can be painful." "Overall I am satisfied, but the only thing is that since this was my 6th delivery is that last night I would've appreciated more frequent dialogue. I felt that when I was in pain the conversation was more around it will get better rather than discussing or adjusting my pain management plan."