The Tailored Opioid Reduction Strategy (TORS): A Quality Improvement Initiative to Reduce Opioid Prescription Following Hysterectomy

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ABSTRACT

Objective: To evaluate a tailored opioid reduction strategy (TORS) in minimizing opioid prescriptions for patients undergoing hysterectomy.

Methods: This quality improvement initiative was developed by multiple stakeholders at an academic hospital in a Canadian urban centre. The intervention consisted of a three-pronged approach: (1) patient and provider education, (2) perioperative multimodal analgesia, and (3) a targeted opioid reduction strategy. All eligible patients were asked to fill pre- and postoperative questionnaires. Analysis of outcomes pre- and post-TORS implementation as well as intervention compliance was performed.

Results: From September 2020 to April 2021, 133 patients who underwent hysterectomy were included in the study, 69 in the pre-intervention group and 64 in the post-intervention group. Of 133 hysterectomies, 78 (58.6%) were performed laparoscopically, 16 (12%) open, 14 (10.5%) vaginally, and 25 (18.8%) robotically. The rate of discharge opioid prescriptions was significantly reduced in the post-intervention group compared with the pre-intervention group (37/64, 58% versus 62/69, 90%, respectively, $P < 0.001$), as well as the amount of opioid prescribed in oral morphine equivalents (OME) (mean 47 mg pre-intervention, 28 mg post-intervention, $P < 0.001$). There was no significant difference in patient satisfaction or postoperative pain scores between groups. Overall, compliance with 2 or more components of TORS intervention was seen in 64/64 (100%) cases.

Conclusion: TORS implementation was successful in reducing the rate of discharge opioid prescriptions and the total amount of opiates prescribed in patients undergoing hysterectomy with no decrease in patient satisfaction or change in postoperative pain scores. We believe it can be applied more broadly across different surgical patient populations to prevent opioid abuse.

Key words: hysterectomy; opioid epidemic; postoperative pain; patient safety; quality improvement

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RÉSUMÉ

Objectif : Évaluer une stratégie personnalisée de réduction des opioïdes (SPRO) dans la diminution des prescriptions d'opioïdes aux patientes se soumettant à une hystérectomie.

Méthodologie : Ce projet d'amélioration de la qualité a été mis au point par plusieurs intervenants dans un hôpital universitaire d'un centre urbain canadien. L'intervention est une stratégie à trois volets : 1) éducation des patientes et fournisseurs de soins; 2) analgésie périopératoire multimodale; et 3) stratégie ciblée de réduction des opioïdes. Toutes les patientes admissibles ont dû répondre à des questionnaires (pré- et post-opératoire). Une analyse des résultats pré- et post-implantation de la SPRO et de l'observance de l'intervention a été effectuée.

Résultats : Dans la période de septembre 2020 à avril 2021, 133 patientes ayant subi une hystérectomie ont été incluses dans l'étude : 69 dans le groupe pré-intervention; 64 dans le groupe post-intervention. Des 133 hystérectomies, 78 (58,6 %) ont été faits par laparoscopie; 16 (12 %), à ciel ouvert; 14 (10,5 %), par voie vaginale; et 25 (18,8 %), par chirurgie robo-assistée. Le taux de prescription d'opioïdes au congé a significativement réduit dans le groupe post-intervention par comparaison au groupe pré-intervention (37/64, 58 % p/r à 62/69, 90 % respectivement, $P <$ 0,001). La quantité d'opioïdes prescrits a aussi diminué en équivalent de morphine orale (moyenne de 47 mg pré-intervention p/r à 28 mg post-intervention, $P < 0,001$). Aucune différence significative n'a été observée entre les deux groupes en ce qui concerne la satisfaction des patientes et les scores de douleur

postopératoire. Dans l'ensemble, l'observance de deux éléments ou plus de l'intervention de SPRO a été constatée dans 64/64 (100 %) des cas.

Conclusion : L'implantation de la SPRO a réussi à réduire le taux de prescription d'opioïdes au congé et la quantité totale d'opioïdes prescrits chez les patientes ayant subi une hystérectomie, et ce, sans diminution de la satisfaction des patientes ni changement des scores de douleur postopératoire. Nous croyons que cette stratégie pourrait être implantée à plus grande échelle dans différentes populations de patients afin de prévenir l'abus d'opioïdes.

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INTRODUCTION

Over the past decade, the opioid epidemic has resulted in catastrophic morbidity and mortality across North America and was declared a public health crisis in 2017.[1] While the etiology of the opioid epidemic is multifactorial, prescription opioids have consistently been major contributors.[2]

Despite increased awareness, over-prescription of opioids continues to be widespread across surgical specialties with rates of unused postoperative opioids as high as 67—92%.[3] Specifically, following hysterectomy, postoperative opioid discharge prescriptions were found to be 2—4 times higher than what was used by the patient.[4]

While standardized protocols for perioperative pain control have been established,[5,6] physicians still exhibit significant variability in postoperative discharge prescription practices, with physicians often overprescribing opioids to ensure patient satisfaction.[7] The unused opioids can cause significant harm through diversion, illegal sales, or theft,[8] as well as increase the patient's risk of prolonged opioid use.[9] Furthermore, as the COVID-19 pandemic led to the closure of opioid-producing plants, the diversion risk was exacerbated due to the unprecedented surge in the street value of these drugs.[10]

At our institution, an academic, tertiary-care medical center serving inner-city patients in downtown Toronto, Canada, we identified postoperative opioid prescribing practices as quality and safety improvement opportunities in line with Health Quality Ontario's (HQO) "Cut the Count" campaign.[11] Our objective was to evaluate if a tailored opioid reduction strategy (TORS) could minimize opioid prescriptions for patients undergoing hysterectomy without compromising patients' pain control.

MATERIAL AND METHODS

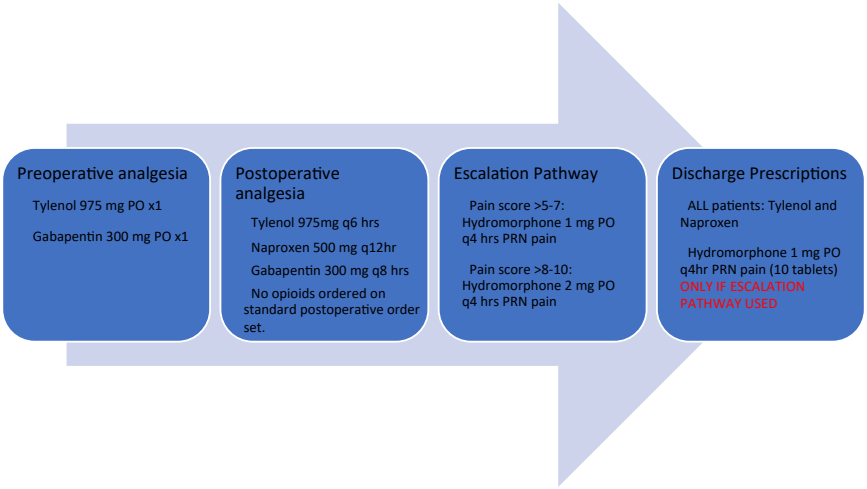
We conducted a pre- and post-quality improvement intervention study in the context of a high-volume surgical center with over 300 annual hysterectomies. We found that all patients undergoing hysterectomy were being discharged with standard opioid prescriptions regardless of pain levels or inpatient medication use, and few knew the medications' benefits or potential harms. After reviewing the literature and meeting with stakeholders, including nurses, surgeons, anesthetists, medical trainees, and our institution's quality improvement committee, an opioid reduction quality improvement intervention was developed.

The TORS consists of a three-pronged approach: (1) patient and provider education, (2) perioperative multimodal analgesia, and (3) a targeted opioid reduction strategy.

Patients undergoing hysterectomy received written and verbal education including an information booklet adapted to appropriate reading levels (Appendix A) reviewing the surgical procedure, expected recovery, the benefits and types of multimodal perioperative analgesia and safety information regarding opioid use, safe disposal options and the reversal agent, naloxone. Providers including staff physicians, fellows, residents, and nurses were informed of the quality intervention electronically via email as well as in person.

Perioperative multimodal analgesia (Figure 1) addressed the immediate preoperative, intraoperative, and postoperative periods. Preoperative analgesia included a single dose of acetaminophen 975 mg and gabapentin 300 mg taken 1—2 hours preoperatively, and it was ordered by the surgeon at the time of surgery package completion. Intraoperative analgesia was left to the discretion of the anesthetist except for injection of local anesthetic at the incision sites by the surgical team. In collaboration with the hospital's Pharmacy and IT Team (PNT), a standardized electronic postoperative analgesia order set (Figure 1) was created including scheduled acetaminophen, a nonsteroidal anti-inflammatory drug (NSAID), and gabapentin. Opioids were excluded from the standard postoperative order set; however, an escalation pathway was created for patients whose pain was not adequately controlled on the non-opioid analgesics. The escalation pathway was based on patient-reported pain scores. Pain scores were collected by nursing staff every 4 hours postoperatively using the

Figure 1. Perioperative multimodal analgesia and electronic standardized postoperative order set



Analgesics:

☐ Acetaminophen 975 mg PO q6h

Nonsteroidal anti-inflammatory drugs (choose 1):

☐ Naproxen 500 mg PO q12h

☐ Ibuprofen 600 mg PO q6h

☐ Celecoxib 100 mg po bid (Contraindicated in patients with sulfa allergy)

Gabapentin 300 mg PO q8h

Dose reductions recommended in patients with impaired renal function; caution regarding sedation/dizziness.

Opioids (conditional medication)

Analgesics:

☐ Hydromorphone 1-2 mg PO q4h PRN pain

- Use 1 mg if pain score (Numeric Rating Scale) greater than 5 to 7
- Use 2 mg if pain score 8-10

☐ Hydromorphone 0.4-0.8 mg SUBCUT/IV q4h PRN for pain

- Use 0.4 mg if pain score greater than 5-7 AND patient unable to tolerate PO meds
- Use 0.8 mg if pain score 8-10 AND patient unable to tolerate PO meds

PO, per os (oral administration); PRN, pro re nata (as needed); SUBCUT, subcutaneous; IV, intravenous

numeric rating scale (NRS). Patients with an NRS score of 5−7, were offered 1 mg of hydromorphone every 4 hours as needed, and patients with an NRS score of 8−10 were offered 2 mg of hydromorphone every 4 hours as needed. Patients with pain scores under 5 were not offered any opioid medication.

At time of discharge, patients received a prescription for acetaminophen 975 mg to be taken orally every 6 hours and naproxen 500 mg every 12 hours regularly for the first 72 hours. Following the first 72 hours, they were instructed to take acetaminophen and naproxen as needed for pain. Patients not requiring the escalation pathway did not receive a prescription for opioids. Patients requiring the escalation pathway received the aforementioned non-opioid prescription as well as 10 tablets of hydromorphone 1 mg to be taken orally every 4 hours as needed for pain, with a 3-day expiry date.

In September 2020, we began the quality improvement initiative. The pre- and post-intervention periods each lasted 15 weeks, with the pre-intervention group serving as our baseline and comparison group. The study population included women undergoing non-obstetric, non-emergent hysterectomy (abdominal, laparoscopic, vaginal, or robotic approach). All patients who met these criteria received a preoperative questionnaire assessing their baseline pain conditions, pain scores, and what they would do if they witnessed an opioid overdose (Appendix B). Patients undergoing emergency hysterectomy, cesarean hysterectomy, and non-English speakers were excluded. At four to six weeks post-operatively, patients were asked to complete a questionnaire by phone or in-person depending on their postoperative visit format. The questionnaire included the following: patient satisfaction with their pain control while in hospital (score 0−10), use of opioid medication including the number of tablets consumed/leftover, disposal method of leftover opioids, use of acetaminophen/NSAID (yes/no), what to do if they witnessed an opioid overdose, need for opioid prescription refills (yes/no), presentation to any clinic or emergency room for pain since their surgery (yes/no), current pain score using the numeric rating scale (NRS) (Appendix C).

The primary outcome was the discharge opioid prescribing rate before and after the TORS intervention, defined as the total number of patients receiving an opioid prescription at discharge over the total number of patients undergoing hysterectomy in the pre and post intervention groups. Secondary outcomes included mean oral morphine equivalents (OME)[12] prescribed in each group, and compliance with the TORS intervention, defined as the number of patients in the after group who received (i) preoperative medication, (ii) patient education pamphlet, (iii) TORS hysterectomy order set, and (iv) appropriate discharge prescription. Other secondary outcomes were obtained from the patients 6-week postoperative questionnaires and included patient satisfaction, pain scores at 6-weeks (NRS score), number of opioid prescriptions that were unused (unfilled prescription or consumed less than 1 tablet), number of participants who disposed of opioids appropriately (returned to pharmacy), patient reported acetaminophen and naproxen use, and participant knowledge relating to opioid overdose.

The balancing measures, which are indicators selected to ensure the study intervention did not inadvertently cause harm in other patient safety domains, included the rate of presentation to a physician due to pain within the first 30 days, length of stay following surgery, patient satisfaction with postoperative pain control, patient pain scores at 6 weeks postoperatively, and requests for opioid prescriptions (refill or new prescription) within the first 6 weeks postoperatively.

Study data was collected by reviewing patients' charts using the electronic medical record and by reviewing questionnaires (performed by A.S. and S.B.). All data analyses were conducted using SPSS version 27 (IBM, Chicago, Illinois). Descriptive statistics were used to summarize demographic and medical characteristics of study participants, primary and secondary outcomes, and post-intervention compliance rates. Categorical variables were presented with frequency and proportions. Numerical data (age, BMI, pain score, length of hospital stay, total amount in opioid prescription, patient satisfaction score) was summarized using mean and standard deviation or median and IQR.

Comparison between pre- and post- intervention for categorical variables was carried using the Chi-square test or Fisher's Exact test where small counts were found. Numerical variables were compared using independent samples t test for normally distributed data (age, BMI, total amount in opioid prescription, patient satisfaction score) or Mann-Whitney test when normality assumption was violated (pain score, length of hospital stay).

All inferential analyses were performed with a level of significance of 5%. Results with P values < 0.05 were reported as statistically significant.

This initiative was formally reviewed by institutional authorities at Unity Health Toronto and deemed to neither require Research Ethics Board approval nor written informed consent from participants.

Table 1. Demographic and medical characteristics of study participants

Characteristic	Pre-intervention, n = 69	Post-intervention, n = 64	Statistical difference
Age, year, mean (SD)	50 (10)	52 (11)	$P = 0.279$
BMI, kg/m^2, mean (SD)	35.4 (12.8)	31.6 (9.6)	$P = 0.058$
Smoking status			$P = 0.127$
Non-smoker	64 (93%)	54 (84%)	
Smoker	5 (7%)	10 (16%)	
Preoperative opioid use			$P = 0.351$
No	68 (99%)	61 (95%)	
Yes	1 (1%)	3 (5%)	
Preoperative pain level, median	0 (0–1.5)	1 (0–4)	$P = 0.083$
Has preoperative pain condition(s)			$P = 0.680$
No	24 (53%)	23 (47%)	
Yes	21 (46%)	25 (53%)	
Marital status			$P = 0.401$
Single	9 (20%)	8 (16%)	
Married	26 (58%)	28 (57%)	
In a relationship	3 (7%)	6 (12%)	
Widow	3 (7%)	2 (4%)	
Divorced	4 (9%)	5 (10%)	
Highest level of education			$P = 0.557$
High school	8 (19%)	11 (25%)	
College	23 (55%)	19 (43%)	
Graduate school	11 (26%)	14 (32%)	
Type of Hysterectomy			$P = 0.755$
Open	10 (15%)	6 (9%)	
Laparoscopic	38 (55%)	40 (63%)	
Vaginal	8 (12%)	6 (9%)	
Robotic	13 (19%)	12 (19%)	
Length of stay, days, median	1 (1–2)	1 (1–1)	$P = 0.119$

BMI, body mass index.

RESULTS

From September 2020 to April 2021, 133 patients underwent hysterectomy and were included in the study; 69 in the pre-intervention group and 64 in the post-intervention group. Baseline patient characteristics are described in Table 1. Of 133 hysterectomies, 78 (58.6%) were performed laparoscopically, 16 (12%) open, 14 (10.5%) vaginally, and 25 (18.8%) robotically. The median length of hospital stay for both groups was one day. There were no significant differences in study participants' demographic and medical characteristics.

The rate of discharge opioid prescriptions was significantly reduced in the post-intervention group compared with the pre-intervention group (62/69, 90% in pre-intervention versus 37/64, 58% in post-intervention, $P < 0.001$), as well as mean amount of opioid medication prescribed in oral morphine equivalents (OME) (47 ± 26.3 mg pre-intervention vs. 28 ± 33.3 mg post-intervention, $P < 0.001$) (Table 2). These findings are further illustrated in statistical process control charts (Figure 2). The reported use of multimodal analgesia at home, including acetaminophen and NSAIDs, was 86% in the pre-intervention group and 94% in post-intervention group. There was a 16% decrease in rate of opioid use postoperatively between the pre- and post-intervention groups (Figure 3).

Patient satisfaction scores, postoperative pain scores, request for prescription refills, emergency room visits, and physician visits due to pain did not differ significantly between the 2 groups (Table 2). None of the patients in post-intervention group required a prescription refill, whereas 2 patients in the pre-intervention group requested opioid prescription within 6 weeks after the operation. Emergency department or physician visits due to postoperative pain were similar in both groups. Among the 3

Table 2. Primary and secondary outcomes

Primary outcome	Pre-intervention, n = 69	Post-intervention, n = 64	Statistical difference
Rate of discharge opioid prescription	62 (89.9%)	37 (57.8%)	$\chi^2(1) = 17.92$, $P < 0.001$
Total amount in opioid prescription, OME, mean (SD)	46.96 (26.28)	27.97 (33.34)	$t(119.7) = 3.63$, $P < 0.001$
Secondary outcomes	**Pre-intervention, n = 69**	**Post-intervention, n = 64**	**Statistical difference**
Length of stay (days)	1 (1–2)	1 (1–1)	$P = 0.119$
Patient satisfaction scores, mean (SD)	9 (2)	10 (1)	$t(94.88) = 1.96$, $P = 0.053$
Pain scores at 6 weeks (n,%)			$\chi^2(1) = 2.08$, $P = 0.149$
No (NRS < 1)	39 (70%)	44 (82%)	
Yes (NRS > 1)	17 (30%)	10 (19%)	
Need for ER or physician visits due to pain postoperatively	3/56 (5%)	5/54 (9%)	$P = 0.485$
Requested or received refill opioid prescription within 6 weeks postop	2/55 (4%)	0/54 (0%)	$P = 0.495$
Opioid use on ward	46/68 (68%)	33/64 (52%)	$\chi^2(1) = 3.55$, $P = 0.060$
Appropriate discharge prescriptions*	50/69 (73%)	58/64 (91%)	$\chi^2(1) = 7.18$, $P = 0.007$
Use multimodal analgesia at home	48/56 (86%)	51/54 (94%)	$\chi^2(1) = 2.33$, $P = 0.127$
Opioid prescriptions that were unused or unfilled	26/51 (51%)	9/31 (29%)	$\chi^2(1) = 3.80$, $P = 0.051$
Opioid disposal method (n,%)			$\chi^2(1) = 2.53$, $P = 0.112$
Incorrect	26 (77%)	13 (57%)	
Correct (return to pharmacy)	8 (24%)	10 (44%)	
What to do in case of opioid overdose (n,%)			$\chi^2(1) = 0.12$, $p = 0.733$
Incorrect	46 (84%)	43 (81%)	
Correct (Naloxone)	9 (16%)	10 (19%)	

NRS, numeric rating scale.

Note: * appropriate discharge prescriptions is defined as being discharged with no opioid prescription or discharged with opioid prescription when patient used opioid in the hospital.

Note: In cases of missing data, the denominator was modified and reflects the number of actual responses received.

patients in the pre-intervention group that sought medical attention, one patient had postoperative bleeding and pain, one had a urinary tract infection (UTI) and a third patient was seen in office for staples removal. In the post-intervention group, 5 patients were seen in the emergency room or clinic — 2 patients had symptoms of gastroesophageal reflux, 1 patient was seen due to bloating and gas pain, 1 patient had a UTI, and 1 patient did not specify the reason for their visit.

We assessed patients' opioid-related knowledge by asking the question, "what would you do if you witnessed someone having an opioid overdose?" as well as by asking their method of opioid disposal. The correct responses to these questions were included in the patient education booklet. There was no significant difference in the number of correct responses between the pre- and post-intervention groups. Unused opioids were returned to the pharmacy in 23.5% of cases in the pre-intervention group and in 43.5% of cases in post-intervention group.

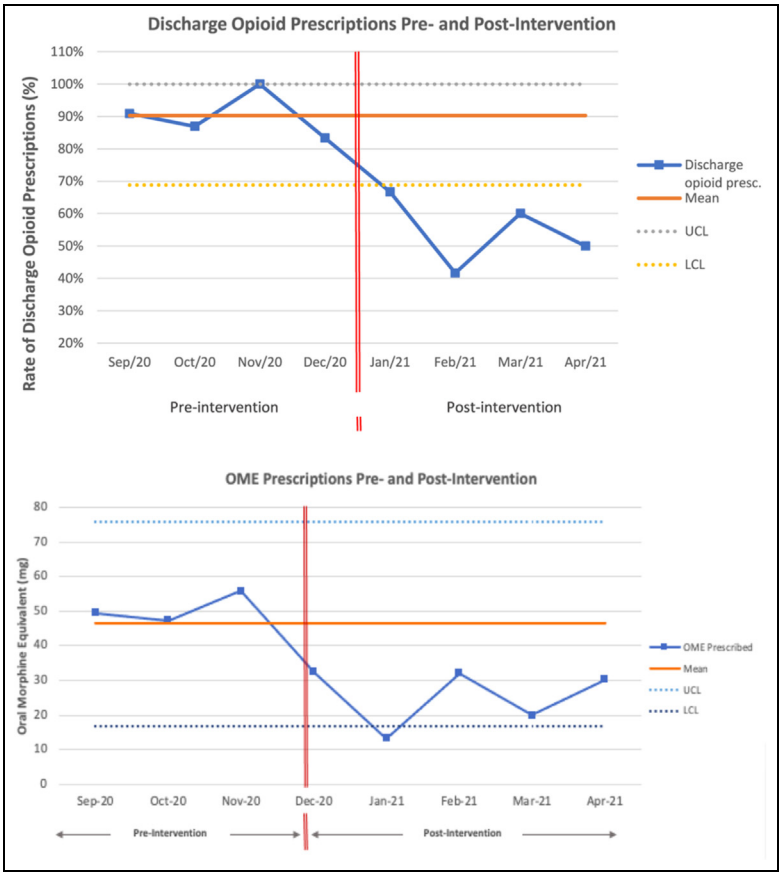
Analysis of compliance with TORS intervention is described in Table 3. Overall, compliance with 2 or more components of TORS intervention was seen in 64/64 (100%) cases, whereas compliance with all 4 components of the intervention was seen in 20/64 (41%) cases.

Patients that received 3 or 4 components of the intervention were significantly less likely to be discharged with an opioid prescription compared with patients who received 2 of the four components (52% vs. 83%, $P = 0.047$), (Table 4).

DISCUSSION

The implementation of a TORS for patients undergoing hysterectomy facilitated a reduction in discharge opioid prescription rate by 32%. In addition, there was also a 41% reduction in the mean amount of opioids prescribed. There were no significant differences in patient satisfaction scores, postoperative pain scores, readmission rates or refill requests in the pre- and post-intervention groups. Patients in

Figure 2. Statistical process control chart of opioid discharge prescriptions provided pre- and post- intervention, and of opioid prescriptions in oral morphine equivalents pre- and post-intervention



the post-intervention group were more likely to dispose of their opioids appropriately than patients in the pre-intervention group, although there was no significant difference in correctly responding to the overdose question. It is possible that printed resources are insufficient as the only educational modality for patients, and in-person instructions and/or video learning modules could improve outcomes.

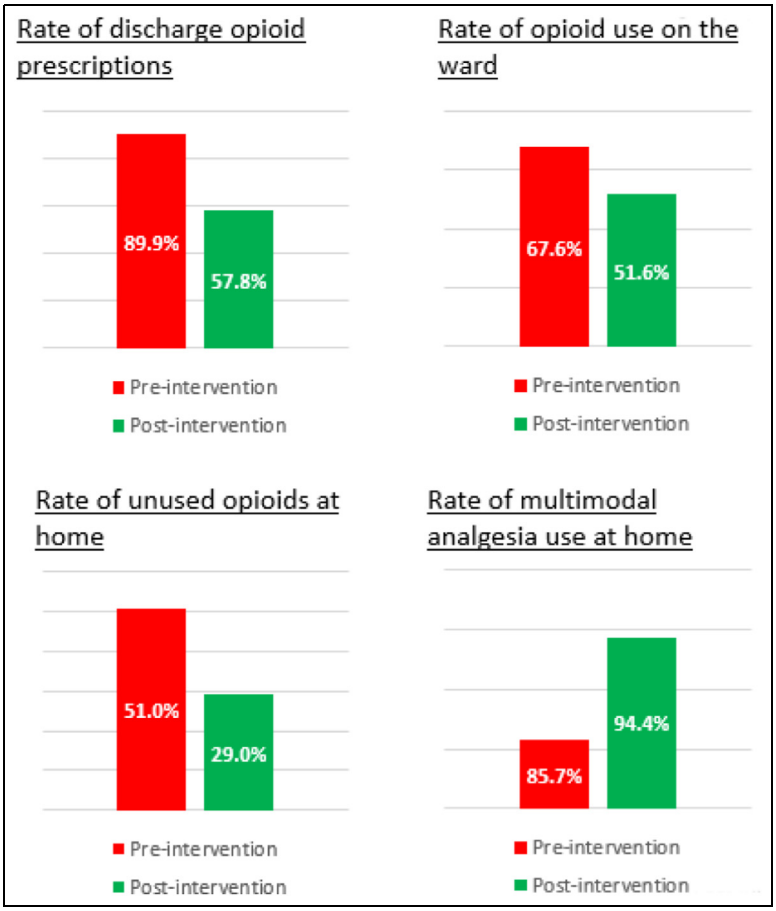
The intervention was based on components of previously published successful interventions in gynecology and general surgery,[13–15] and was created with the input of multidisciplinary stakeholders and end-users. Patient and provider education has been shown to be effective in helping manage patient pain expectations, improving patient satisfaction, and improving provider prescription rates.[16] The use of multimodal analgesia including preoperative acetaminophen and gabapentin has also been shown to reduce postoperative opioid consumption in several surgical specialties.[14] The escalation pathway, and the use of a standardized approach to discharge opioid prescriptions based on in-hospital use of opioids has been successful in urology,[14] obstetrics[17] and gynecology[15] studies, and is a simple and replicable strategy for postoperative pain control.

Importantly, both the pre- and post-intervention periods took place during the COVID-19 pandemic, thereby reducing the impact of temporal bias.

While one of the strengths of this intervention is its multifaceted approach to opioid reduction, it may make implementation more challenging. For instance, while at least 2 intervention components were implemented in 64/64 (100%) of cases in the post-intervention group, only 26/64 (41%) had all 4 components. We identified an inverse relationship between the number of components implemented and the number of patients discharged with an opioid prescription.

The discrepancy in compliance between intervention components may be partly explained by behavior change theory.[18,19] For example, 45/64 (73%) patients received preoperative acetaminophen and gabapentin while 100% of patients had the postoperative hysterectomy order set.

Figure 3. Rate of opioid and multimodal analgesia use in pre- and post-intervention period



The addition of preoperative acetaminophen and gabapentin was not standard of practice before this intervention and the addition of a new step may have been perceived as an external barrier (disruption of clinic flow) to the physicians. To improve compliance with preoperative analgesia orders, we could consider adding it in the form of a preprinted order set. In contrast, the postoperative hysterectomy order set is pre-populated (Figure 1) and submitted electronically. It is typically completed at the end of the surgery, thereby not impacting any clinical flow. Although the outcome measure (rate of discharge opioid prescriptions) exceeded our expectations, our results may have been more significant if all components of the intervention were easier to implement.

Table 3. Post-intervention group compliance

Compliance information	Frequency (%)
Preoperative Tylenol and gabapentin	45 (73%)
Use of hysterectomy order set	64 (100%)
Appropriate discharge prescriptions	58 (91%)
Patient education pamphlet	39 (72%)
Compliance with 2 or more components of the intervention	64 (100%)
Compliance with all 4 components of the intervention	26 (41%)

In the post-intervention group, there was a deviation from the opioid prescribing protocol in 8/64 (12.5%) patients - 6 patients received an opioid prescription despite not using opioids on the ward, and 2 patients were discharged without a prescription despite requiring opioids. This may reflect physicians' cultural attitudes towards opioid prescribing practices for patients undergoing major surgery. Alternatively, the deviation from protocol may have been due to the system characteristic of ambiguity.[20] This theory is consistent with our findings that deviation from protocol happened mostly over the weekend when resident physician turnover is frequent.

Limitations to our study were that it was non-randomized and performed at a single-site in one subset of surgical patients. Furthermore, we were not able to include patients' ethnic or racial background as it is not included in the hospital EMR, therefore it could not be established whether there were differences in outcomes among these

Table 4. Relationship between intervention compliance and rate of discharge opioid prescriptions

Number of intervention components patients received	Discharged with opioid prescription		
	No	Yes	Chi-square test
2	2 (17%)	10 (83%)	$\chi^2(2) = 4.65$, $P = 0.098$
3	11 (42%)	15 (58%)	
4	14 (54%)	12 (46%)	
2	2 (17%)	10 (83%)	$\chi^2(1) = 3.94$, $P = 0.047$
3 or 4	25 (48%)	27 (52%)	

groups. Another limitation was pertinent to fluency in English. Patients who were non-English speakers, and who were unable to respond to or complete the questionnaires were excluded from the study. Finally, employing a self-filled patient questionnaire may have introduced reporting bias, as evidenced by the presence of missing data in certain questions (e.g., opioid disposal method, actions to take in case of an opioid overdose). This could have impacted the accurate assessment of the patient education component of the intervention.

CONCLUSION

In conclusion, the use of a TORS was successful in significantly reducing the rate of discharge opioid prescriptions in patients undergoing hysterectomy, while ensuring adequate pain control and patient-reported satisfaction. Specifically, the rate of discharge opioid prescription was reduced by 32% and mean amount of opioid prescribed was reduced by 41%. Moreover, patients in the post-intervention group consumed less opioids in the acute postoperative period and were more likely to use multimodal analgesia.

Given the alarming international opioid crisis, efforts to reduce excess opioid prescriptions are essential. Future directions include a multidisciplinary focus group, including a patient representative, to review the intervention and propose improvements for future iterations.

We aim to implement adapted versions of this intervention across other gynecologic surgeries at our center and believe that this strategy can be implemented in other surgical disciplines and institutions.

SUPPLEMENTARY MATERIAL

Supplementary material related to this article can be found at https://org.doi/10.1016/j.jogc.2023.102214.

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