

# An evaluation of domperidone use for increased milk production in the immediate postpartum in breastfeeding women

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## BACKGROUND

- Approximately 7000 deliveries occur at BC Women's Hospital (BCWH) each year.
- 26% of breastfeeding women in Canada stop due to low milk supply<sup>1</sup>.
- Despite not being approved by Health Canada, domperidone is commonly used to stimulate milk production.
- 2011 BC study<sup>2</sup>:
  - 32% and 19% of women with premature and term deliveries respectively were prescribed domperidone within 6 months postpartum.
  - median dose of 80 mg per day
- Health Canada issued two safety warnings about domperidone<sup>3,4</sup>
  - 2012:
    - risk of cardiac adverse events e.g., serious ventricular arrhythmias and sudden cardiac death
    - recommended a maximum dose of 30 mg per day
  - 2015:
    - reiterated 2012 warning
    - added contraindications including cardiac disease, and concomitant QTc-prolonging drugs, and CYP3A4 inhibitors
- It is unclear how the safety warnings impacted prescribing of domperidone for lactation.

## OBJECTIVES

- To describe domperidone usage before and after the warnings from Health Canada in postpartum women at BCWH
- Secondary objectives:**
  - Describe effectiveness and safety of domperidone for lactation
  - Describe timing of domperidone initiation postpartum, type of prescriber, cardiac monitoring, and interventions by pharmacists

## METHODS

- **Design:** Retrospective cohort health record review
- **Inclusion:** Postpartum women admitted to BCWH, prescribed domperidone for lactation, January 2010 to July 2017
- **Frequency of prescribing:** Number of domperidone prescriptions divided by admissions for the same time periods
  - Randomly sampled for each time period
- **Adverse effect:** Evaluated using the Naranjo Scale (scores  $\geq 3$  (possible) were included)
- **Statistics:** ANOVA, chi squared test, descriptive statistics
- Comparisons were made between the 1<sup>st</sup> and 3<sup>rd</sup> period and the 2<sup>nd</sup> and 3<sup>rd</sup> period
- **Sample size:** N=245 to detect a difference of 20%, significance level of 0.05 and power of 80%

## RESULTS

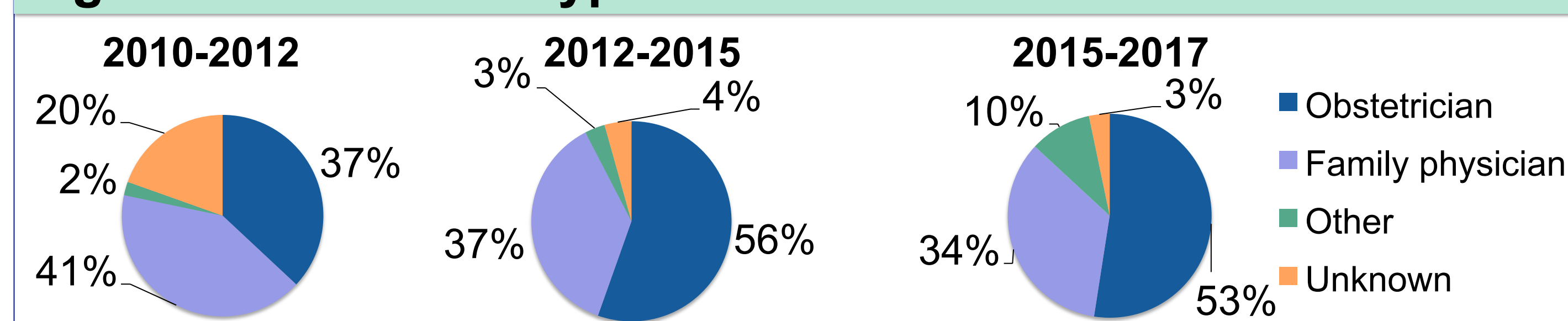
**Table 1: Frequency of prescribing**

	2010-2012	2012-2015	2015-2017	P
Frequency of prescribing (%)	1.4	1.0	0.4	<0.00001
Number of prescriptions	204	191	61	

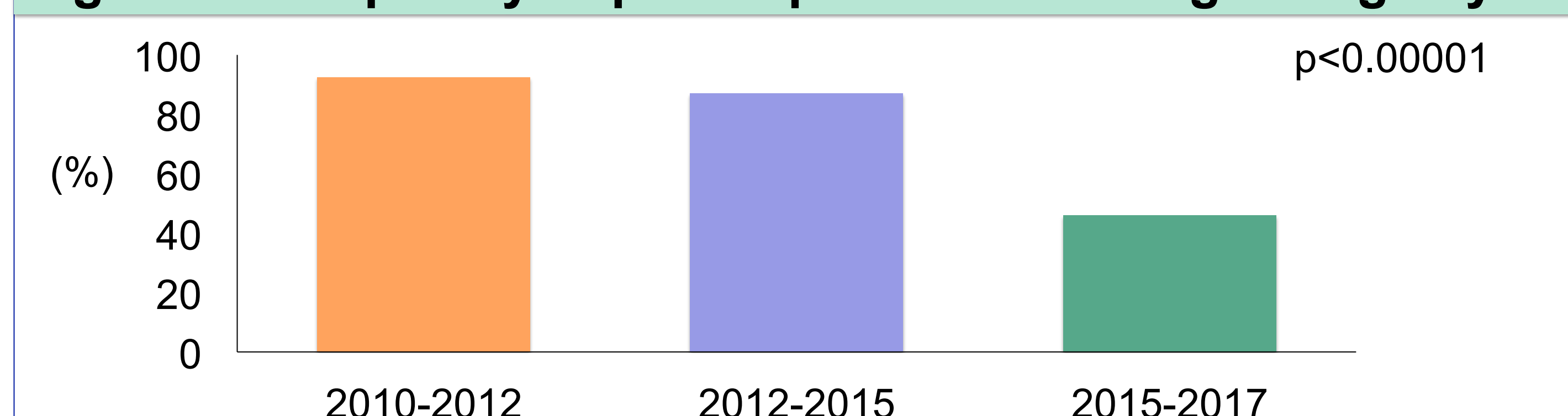
**Table 2: Characteristics**

	2010-2012 N=92	2012-2015 N=92	2015-2017 N=61
Mean age, years ( $\pm$ SD)	34 $\pm$ 5	34 $\pm$ 5	34 $\pm$ 5
Primiparous, n (%)	24 (26)	26 (28)	17 (28)
Preterm birth, n (%)	24 (26)	36 (39)	22 (36)
Vaginal delivery, n (%)	43 (47)	40 (43)	24 (39)
Single gestation, n (%)	78 (85)	78 (85)	54 (89)
Median time postpartum domperidone was initiated, days (IQR)	2 (1-4.25)	2.5 (1-5.25)	2 (1-6)
Lactation consultant (LC), n (%)	33 (36)	29 (32)	23 (38)
Domperidone initiated pre LC, n (%)	14 (42)	8 (28)	10 (43)
Pumping, n (%)	82 (89)	73 (79)	56 (92)
Pharmacist intervention, n (%)	0	1 (2)	9 (15)

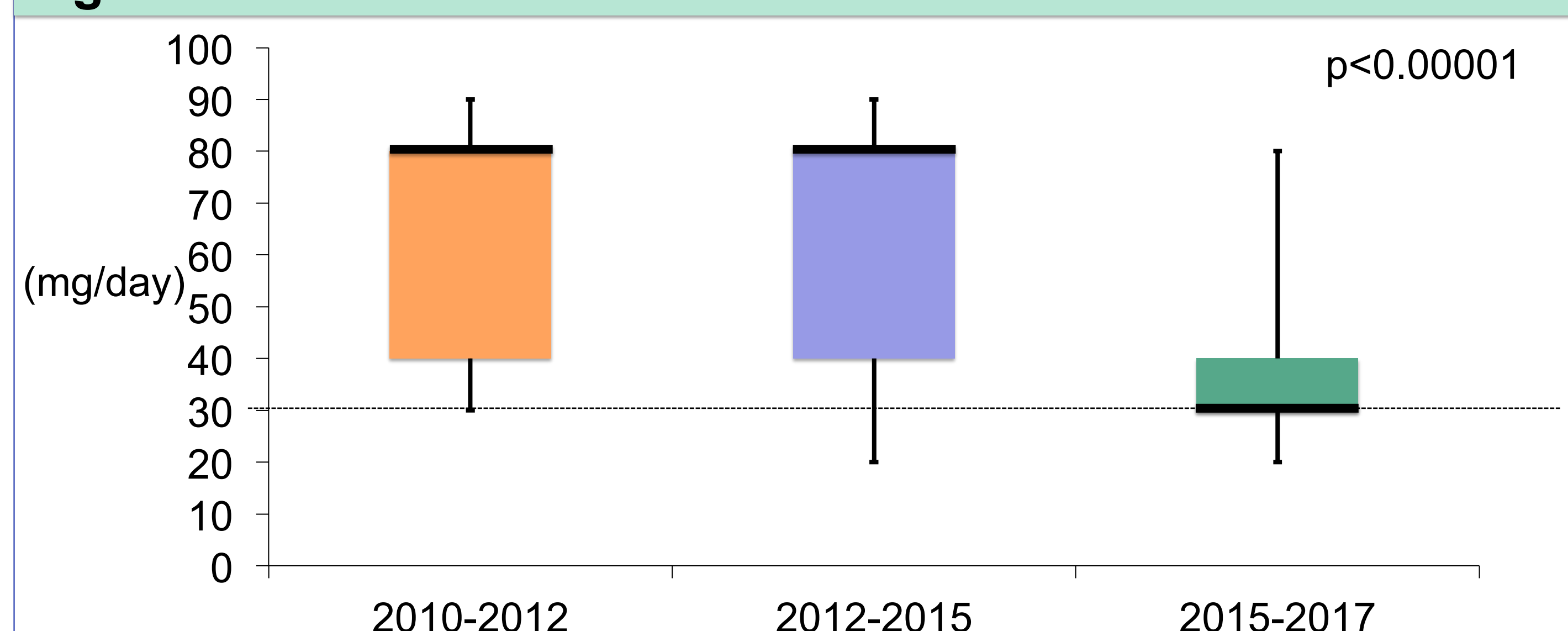
**Figure 1: Prescriber type**



**Figure 2: Frequency of prescriptions exceeding 30 mg/day**



**Figure 3: Maximum dose**



**Table 3: Effectiveness**

	2010-2012 N=8	2012-2015 N=16	2015-2017 N=11
Increase in measured milk volume, n (%) (if reported)	8 (100)	10 (63)	11 (100)

**Table 4: Safety**

	2010-2012 N=92	2012-2015 N=92	2015-2017 N=61
<b>Contraindications</b>			
Cardiac disease, n (%)	1 (1)	2 (2)	0
Receiving CYP3A4 inhibitors, n (%)	0	1 (1)	1 (2)
Receiving QTc-prolonging drugs, n (%)	16 (17)	16 (17)	6 (10)
- Methadone, n (%)	9 (10)	11 (12)	3 (5)
- Metronidazole, n (%)	4 (4)	2 (2)	0
- Antidepressants/antipsychotics, n (%)	4 (4)	4 (4)	4 (7)
On multiple QTc-prolonging drugs, n (%)	1 (1)	1 (1)	1 (2)

**Table 5: Safety monitoring**

	2010-2012 N=92	2012-2015 N=92	2015-2017 N=61
ECG, n (%)	2 (2)	6 (7)	7 (11)
Adverse effect, n (%)	0	4 (4)	0
- Chest pain, n (%)		1 (1)	
- Lightheadedness, n (%)		1 (1)	
- Dizziness, n (%)		1 (1)	
- Diarrhea, n (%)		1 (1)	

## LIMITATIONS

- Retrospective chart review
- Increase in milk volume is in correlation with the time period of natural increase in milk production
- In the immediate postpartum period only

## CONCLUSION

- Frequency of prescribing domperidone for lactation and dosage prescribed have decreased since the Health Canada warnings. However, there was a lag between the warnings and change in practice.
- The initiation of domperidone often occurred prior to the natural increase in milk production.
- Unable to assess the effectiveness and safety of domperidone for lactation.
- Further studies needed to assess the long-term effectiveness and safety of domperidone for lactation.

## REFERENCES

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