

Prevalence & type of potentially teratogenic medications prescribed to hospitalized pregnant women in Belgium

Michael Ceulemans^{1,2}, Lynn Bruyninckx¹, Evelyne Van den Broucke^{1,3}, Karel Allegaert^{1,4}, Kristel Van Calsteren^{1,3}, Isabel Spriet^{1,3}, Charlotte Quintens^{1,3}

¹KU Leuven, Belgium; ²Research Foundation Flanders (FWO), Belgium; ³University Hospitals Leuven, Belgium; ⁴Erasmus MC, the Netherlands.

Background and Objectives



Hospitalized pregnant women may use potentially teratogenic medications, although epidemiologic data on this topic in Belgium are generally lacking.



This study examined the frequency and type of potentially teratogenic medications prescribed to pregnant women hospitalized in our University Hospitals Leuven in Belgium.

Methods



This **retrospective**, **descriptive** study analyzed electronic health records (EHRs) of pregnant women hospitalized in UZ Leuven between 1/1/2021 and 31/12/2023.

Only EHR documented pregnancies were included.

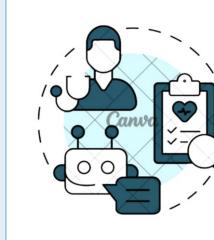


A pragmatic list of potentially teratogenic medications was compiled using evidence-based teratology information (www.lareb.nl), and categorized into two groups, as either contraindicated during (parts of) pregnancy (category 1) or as carrying potential fetal risks requiring case-by-case assessment (category 2).

Conclusions



Nearly all hospitalized pregnant women received medication, of which **one in four** were **exposed** to **potentially teratogenic medications**, more often during non-pregnancy related admissions.



The findings support the **potential value of a pregnancy-related, pharmacist-led surveillance system**. However, **documentation of pregnancy status** in hospital records, particularly in non-obstetric wards, remains insufficient and **should be prioritized** to maximize the sensitivity and effectiveness of such a pharmacist-led surveillance system in the hospital setting.

Cohort: N=155 pregnancies Median hospital stay: 5 days (IOR:5)

Median hospital stay: 5 days (IQR:5)
Delivery during hospitalization: 11.0%

Prenatal medication use during hospitalization

1,058 medications used during hospitalization
Mean of 6.8 medications per patient
Two women (1.3%) received no medication

Most used ATC level 1 categories

Alimentary tract and metabolism: 34.5%

Nervous system: 15.2%

Blood and blood-forming organs: 14.0%

Most used ATC level 2 categories

Analgesics: 12.3%

Drugs for acid-related disorders: 11.7%

Drugs for functional gastrointestinal disorders: 10.0%

Systemic antibiotics: 9.1%

Most used medications ATC level 5

Paracetamol: 61.9%
Metoclopramide: 57.4%
Pantoprazole: 51.0%
Atosiban: 38.1%
Cefazolin: 34.2%

Results

Timing of hospital admissions

First trimester: 21.3%
Second trimester: 47.1%
Third trimester: 31.6%

Main reasons for hospital admisision

Hyperemesis gravidum: 17.4% Fetal open spina bifida repair: 11.6%

Laser therapy for twin-to-twin transfusion syndrome: 11.0%

Preterm premature rupture of membranes: 6.5%

Prenatal surgery for congenital diaphragmatic hernia: 6.5%

Admission unrelated to obstetric conditions: 10.3%

Pre	evalence (%)
	3% (77/1058) '.1%
 Anti-inflammatory & antirheumatic products 39. Indomethacin Tramadol 18 	.2% .0% 8.7% 8.1% 7.7%
Timing of exposure • Second trimester 85.	.7%
	.0%

Potentially teratogenic medications were used twice as often during non-pregnancy vs. pregnancy-related admissions (12.7% vs. 6.8%)

Acknowledgements