Patterns of Prescribed and Dispensed Medicines among Non-Hospitalized Pregnant Women with COVID-19:

A Prospective Individual Patient Data Meta-analysis in Europe and North America

Odette de Bruin, Emeline Maisonneuve, Eimir Hurley, Hedvig Nordeng, Anick Bérard, Odile Sheehy, Padma Kaul, Mayura Shinde, Austin Cosgrove, Jennifer Lyons, Elizabeth Messenger-Jones, Maria Kempner, Sengwee Toh, Wei Hua, José Hernández-Muñoz, Leyla Sahin, Carolyn Cesta, David Hägg, Rosa Gini, Olga Paoletti, Beatriz Poblador-Plou, Sue Jordan, Daniel Thayer, Clara Rodríguez-Bernal, Francisco Sánchez-Sáez, Régis Lassalle, Marie-Agnès Bernard, Ema Alsina, Fariba Ahmadizar, Guillaume Favre, Alice Panchaud, Kitty Bloemenkamp, Kelly Plueschke, Corinne de Vries, Satu Siiskonen, and Miriam Sturkenboom, on behalf of the CONSIGN collaboration group

UMC Utrecht

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o.debruin-3@umcutrecht.nl

OBJECTIVE

To estimate medication use prevalence by pregnancy trimester in non-hospitalized pregnant women with COVID-19 and compare it with pregnant women without COVID-19 and non-pregnant women with COVID-19.

C NSIGN

BACKGROUND

There is a significant void in our understanding of the specific medications used by pregnant women with COVID-19 in real-world outpatient settings. Existing evidence refers to smaller sample sizes or inpatient prescriptions only.

METHODS

Design: Prospective two-stage Individual Patient Data meta-analysis
Setting: 10 data sources in Europe (CONSIGN EHR study), Canada (CAMCCO), and the USA (Sentinel System)
Population: An index cohort of non-hospitalized pregnant women with COVID-19 and two comparator groups: i) pregnant women without COVID-19, and ii) non-pregnant women with COVID-19
Period: March 2020 – December 2022
Outcomes: Prescribed or dispensed medications within 30-days pre- and post-COVID-19 diagnosis
Analysis: Prevalence estimates were pooled using a random-effects model for meta-analysis of proportions and stratified by trimester

RESULTS

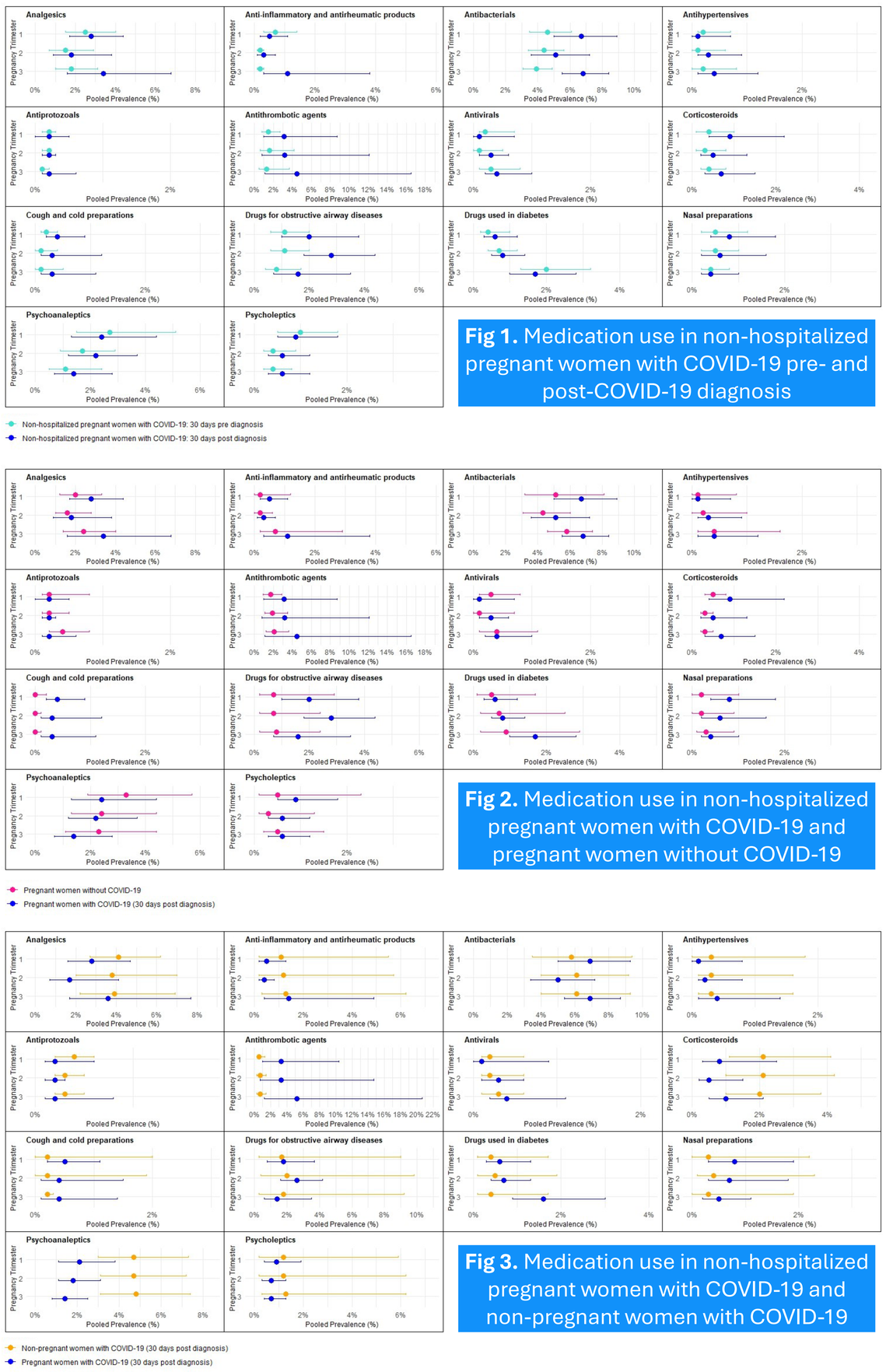

Fig 1. Medication use in non-hospitalized pregnant women with COVID-19 pre- and post-COVID-19 diagnosis

Fig 2. Medication use in non-hospitalized pregnant women with COVID-19 and pregnant women without COVID-19

Fig 3. Medication use in non-hospitalized pregnant women with COVID-19 and non-pregnant women with COVID-19

Participants: 50 335 non-hospitalized pregnant women with COVID-19

Pregnant with COVID-19 pre- and post diagnosis:
- Antibacterial use in 3rd trimester:
  →Pre-COVID-19: 3.9%, 95% CI 3.1-4.9, I^2=89%
  →Post-COVID-19: 6.8%, 95% CI 5.5-8.4, I^2=94%

Table 1. Description of COVID-19 positive pregnancies

	Total number of non-hospitalized pregnant women with COVID-19	COVID-19 in trimester 1	COVID-19 in trimester 2	COVID-19 in trimester 3
Tuscany, Italy	739	181 (24%)	261 (35%)	297 (40%)
Valencia, Spain	3231	1241 (38%)	1032 (32%)	958 (30%)
Aragon, Spain	754	201 (27%)	272 (36%)	281 (37%)
Wales, UK	1642	555 (34%)	599 (36%)	488 (30%)
Norway	879	217 (25%)	361 (41%)	301 (34%)
Sweden	4199	259 (6%)	1455 (35%)	2485 (59%)
Alberta, Canada	1968	571 (29%)	706 (36%)	691 (35%)
Manitoba, Canada	170	19 (11%)	62 (36%)	89 (52%)
Ontario, Canada	933	270 (29%)	303 (32%)	360 (39%)
US	35 820	6726 (19%)	9562 (27%)	19 532 (55%)
Total	**50 335**	**10 240 (20%)**	**14 613 (29%)**	**25 482 (51%)**

Pregnant with COVID-19 vs. pregnant without COVID-19:
- Higher medication use with COVID-19, but not statistically significant
- Antithrombotics use in 3rd trimester:
  →Pregnant with COVID-19: 4.5%, 95% CI 1.1-16.5, I^2=100%
  →Pregnant without COVID-19: 2.1%, 95% CI 1.2-3.6, I^2=99%

Pregnant with COVID-19 vs. non-pregnant with COVID-19:
- Pregnant women were less likely to be prescribed antiprotozoals, analgesics, corticosteroids, psychoanaleptics and psycholeptics and more likely to be prescribed antithrombotics, cough and cold and nasal preparations across all trimesters
- Antithrombotics use in 3rd trimester:
  →Pregnant with COVID-19: 5.2%, 95% CI 1.2-20.6, I^2=100%
  →Non-pregnant with COVID-19: 0.7%, 95% CI 0.3-1.4, I^2=99%

High heterogeneity existed in nearly all analyses

DISCUSSION & CONCLUSION

This international meta-analysis reveals low medication use and country-specific variations, enhancing insight into the management of COVID-19 in non-hospitalized pregnant women. Higher antithrombotics use post-COVID-19 suggests prophylactic treatment in this population.

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