



Medication use in pregnant women with Polycystic Ovary Syndrome (PCOS): A nationwide cohort study from The Netherlands.

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Introduction

- Polycystic Ovary Syndrome (PCOS) is the most common endocrine disorder among reproductive women, **affecting 8–13%** of women in their reproductive years.
- PCOS is associated with severe health impacts like obesity, type 2 diabetes, metabolic syndrome and cardiovascular disease. During pregnancy, women with PCOS have an **increased risk for gestational diabetes, miscarriages and pre-term birth**.
- Recent evidence suggests that women with PCOS tend to have a **higher overall use of medications**. However, this has not been studied in pregnant women with PCOS.
- **Objective** of this study; to investigate the differences in personal characteristics and medication use between pregnant women with and without PCOS.

Methods

- Data from the **Dutch Pregnancy Drug Register (DPDR)** was used.
- The DPDR is an ongoing national **prospective cohort study** monitoring the safety of drug exposure during pregnancy and breastfeeding through a maximum of six self-reported questionnaires (**Figure 1**).
- For this study, we included all DPDR participants enrolled between January 2021 and June 2024.
- Women who **reported having PCOS at baseline** were compared to women who reported not having PCOS.
- First, demographic characteristics between groups were compared.
- Secondly, the following **medication variables** were compared;
 - overall medication use
 - top ten most commonly used medication,
 - fertility medication
 - antidepressants & anxiolytics use
 - pain relief during birth.
- Statistical differences between groups were tested with **chi-squared and t-tests**.

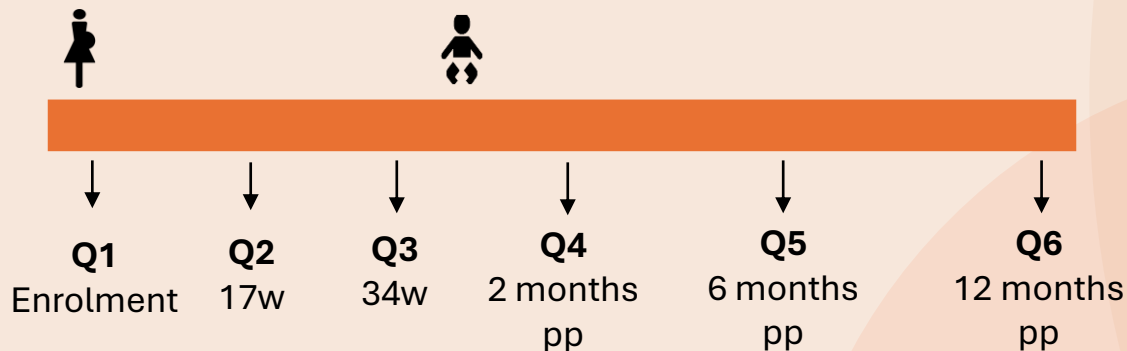


Figure 1. Questionnaire distribution schedule of the DPDR.

Abbreviations; pp = postpartum, Q = questionnaire, w = weeks of gestation

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Results (1)

- A total of 711 (**4.3%**) women with PCOS and 15.969 (95.7%) without PCOS were included.
- Pregnant women with PCOS experienced a **longer time to conception** ($P < 0.01$) and had a **higher median Body Mass Index (BMI)** (25.4 vs 24.6; $P < 0.01$).
- Differences in medication use were analyzed among participants with a completed follow-up up until birth including 315 women with PCOS and 7.382 women without PCOS.
- Women with PCOS were **significant** more likely to use (**Table 1**);
 - Any medication during pregnancy (93.3% vs 87.3%; **P = 0.02**)
 - Fertility medication (42.5% vs 7.1%; **P < 0.01**)
 - Pain relief during birth (55.8% vs 47.3%; **P < 0.01**).
- Among the ten most commonly used medications for women with PCOS, three were fertility medications: letrozole, clomiphene and follitropin (**Table 2**).

Table 1. Medication use during pregnancy

	Women who gave birth with PCOS N = 315	Women who gave birth without PCOS N = 7.382	P-value
Any medication during pregnancy	294 (93.3)	6.442 (87.3)	0.02
Fertility medication	134 (42.5)	526 (7.1)	<0.01
Antidepressant/anxiolytic	18 (5.7)	329 (4.5)	0.36
Pain relief during birth	174 (55.8)	3.482 (47.3)	<0.01

Table 2. Top 10 most commonly used medication during pregnancy

Women who gave birth with PCOS N = 315		Women who gave birth without PCOS N = 7.382		
Paracetamol	135 (42.9)	1	2.998 (41.4)	Paracetamol
Letrozole	42 (13.3)	2	752 (10.4)	Xylometazoline
Xylometazoline	38 (12.1)	3	600 (8.3)	Meclozine / Pyridoxine
Rennie ^{®1}	32 (10.2)	4	598 (8.3)	Rennie ^{®1}
Meclozine / Pyridoxine	32 (10.2)	5	504 (7.0)	Ferrous fumarate
Clomiphene	30 (9.5)	6	476 (6.6)	Omeprazole
Ferrous fumarate	29 (9.2)	7	468 (6.5)	Miconazole
Omeprazole	28 (8.9)	8	411 (5.7)	Clotrimazole
Follitropin	26 (8.3)	9	401 (5.5)	Acetylsalicylic acid
Clotrimazole	23 (7.3)	10	383 (5.3)	Cetirizine

Marked medicines represent the fertility medication.

¹Brandname for calcium carbonate / magnesium carbonate

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Table 3. Overview of preconceptionally initiated antidepressants & anxiolytics use during pregnancy among women with PCOS (N = 13)

	Indication	Medication	<T1	T1	T2	T3
1	Depression	Bupropion	Yes	Yes	Yes	Yes
		Escitalopram	Yes	Yes	Yes	Yes
2	Depression	Citalopram	Yes	Yes	Yes	Yes
3	Depression	Citalopram	Yes	Yes	No	No
4	Depression	Venlafaxine	Yes	Yes	No	No
5	Depression	Fluoxetine	Yes	Yes	Yes	Yes
6	Depression	Bupropion	Yes	Yes	No	No
7	Depression	Sertraline	Yes	Yes	Yes	Yes
8	Depression	Sertraline	Yes	Yes	Yes	Yes
		Bupropion	Yes	Yes	Yes	Yes
9	Anxiety disorder	Sertraline	Yes	Yes	Yes	Yes
10	Anxiety disorder	Citalopram	Yes	Yes	Yes	Yes
11	Anxiety disorder	Escitalopram	Yes	Yes	Yes	Yes
12	Borderline & PTSD	Venlafaxine	Yes	Yes	No	No
		Temazepam	Yes	Yes	No	No
		Lorazepam	Yes	Yes	No	No
13	Insomnia	Temazepam	Yes	Yes	No	No

Abbreviations; T = Trimester

Results (2)

- Women with PCOS reported more frequently;
 - A **mental health condition** (10.8% vs 8.7%; P = 0.23)
 - The **use of antidepressants or anxiolytics** during pregnancy (5.7% vs 4.5%; P = 0.36)
- The most commonly used antidepressants or anxiolytics during pregnancy by women with PCOS were **temazepam, citalopram, sertraline and bupropion**.
- Finally (**Table 3**), 5 out of the 13 women with PCOS who used antidepressants or anxiolytics before conception (**38%**), **discontinued their medication during pregnancy**

Conclusion

- Women with PCOS were more likely to use any medication during pregnancy, and pain relief during birth compared to women without PCOS.
- Preconception counselling** is crucial for women with PCOS, particularly for those with co-existing mental health disorders, as one in three women in our study discontinued antidepressant or anxiolytic medication during pregnancy.