ECHO IDAHO:
Maternal Care

Safe Prenatal Prescribing Practices

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Learning Objectives

- Recognize where population changes occur and the impact on medications prescribed in pregnancy
- Identify where to access information about medicine in pregnancy
- Hopefully learn at least one new thing

Prescription Medication use During pregnancy in the United States from 2011 to 2020: Trends and safety evidence

TABLE 1
Top 15 commonly used prescription medications at any time during pregnancy among participants aged 12 to 54 years in MarketScan (2011–2020) and MAX/TAF (2011–2018) and those aged 20 to 44 years in the National Health and Nutrition Examination Survey (2011–2020)

	MarketScan (n=1,754,125)		MAX/TAF (n=1,475,321)		NHANES[a] (n=279)	
Rank	Medication	%	Medication	%	Medication	%
1	Ondansetron	16.8	Nitrofurantoin	22.2	Levothyroxine	5.0
2	Amoxicillin	13.5	Acetaminophen[b]	21.3	Sertraline	2.9
3	Azithromycin	12.4	Ondansetron	19.5	Insulin	2.9
4	Nitrofurantoin	11.3	Metronidazole	18.8	Montelukast	2.8
5	Acetaminophen[b]	9.1	Amoxicillin	17.7	Metformin	2.7
6	Progesterone	8.3	Azithromycin	15.7	Ondansetron	2.5
7	Promethazine	7.4	Cephalexin	13.4	Doxylamine/pyridoxine	1.9
8	Metronidazole	6.9	Docusate	12.9	Nitrofurantoin	1.8
9	Levothyroxine	6.3	Promethazine	12.4	Tramadol	1.5
10	Cephalexin	6.0	Fluconazole	9.2	Levalbuterol	1.3
11	Estradiol	5.5	Albuterol	8.9	Ethinyl estradiol	1.2
12	Fluconazole	5.4	Hydrocodone	8.7	Bupropion	1.1
13	Terconazole	4.7	Terconazole	8.2	Hydrocodone	1.1
14	Valacyclovir	4.6	Codeine	7.2	Glyburide	1.0
15	Hydrocodone	4.4	Metoclopramide	6.4	Amoxicillin	1.0
Colors (TERIS level of available evidence on teratogenic risk):				None to limited to fair	Fair to good	Good to excellent

Prescription Medication use During pregnancy in the United States from 2011 to 2020: Trends and safety evidence

- 50% of pregnant women took at least 1 medication
- 2007- 63% of medications used in 1st trimester had very limited to fair evidence in quality or quantity.
- PMR-16% of drugs that could be used in female reproductive potential have been issued a PMR over the last 15 years
- Limited new data after 2010 for safety

CDC

- 9 in 10- take some type of medication during pregnancy
- 7 in 10- take at least one rx medication
- 1997-2018- 1 prescription in the first trimester 35%
- < 10% of medicines approved have enough information to determine safety during pregnancy.

- **** As a result, women and healthcare workers have limited information to make informed treatment decisions during pregnancy.***

What has changed?

- Where do you see the most change in patient health in the last 20 years?
  - Chronic Diseases
  - Weight loss
  - Mood Disorders
  - Stimulants
  - Meds due to Tik Tok/Facebook/Instagram

Where To Start?

- Trimester
  - Organogenesis.
  - Most organ development happens between 6-8 weeks
- Can it safely be stopped or changed
  - Seizure meds, psych meds
- Resources
  - Guidelines, Online resources, Apps.
- What is everyone using????
  - Still seeing A-X ratings?

Resources-

- Mother To Baby
  - Free to text, call, or chat
  - Facts sheets- English and Spanish
  - Drug/substance use, food and beverages, Infections and vaccines.
  - Free App- More directed for health care providers
- FDA
  - Specific drug index
  - May or may not have pregnancy information. Abilify vs APAP
  - No specific recommendations

Example- Lisinopril

- Mother to Baby
  - Every pregnancy starts out with a 3-5% chance of having a birth defect. This is called the background risk. There is no proven risk of birth defects with first trimester use of ACE inhibitors. The majority of studies have not found birth defects to occur more often in those who took or were prescribed an ACE inhibitor in the first trimester of their pregnancy. It is difficult to study medications as a group because even though the ACE inhibitors work in similar ways, there are some differences among the individual medications. When drugs are studied as a group, differences for individual drugs could be missed. Also, problems reported in studies may be related to high blood pressure / medical condition being treated, and may not be due to the medication.
- FDA
  - No mention of pregnancy related to ACE

Resources

- Reprotox
  - Extensive information-
    - Fertility, pregnancy, lactation, neonatal development
    - Clinical, experimental animal, and in vitro study
    - >5000 agents and exposure
    - Cost: $17/per month 1 consumer, $199/year individual, APP- free
- TERIS- Teratogen Information System
    - UW- web based system. Clear up front, then summary of literature at the end
    - 1700 agents, including 200 frequently rx meds. Get Shepards catalog of Teratogenic agents.
    - $257 per year. Free for med students.

Resources

- Infant Risk app
  - $10/year
  - Rx, OTC, Vitamins, Conditions
  - Pregnancy and breast feeding
  - Overall rating, clear 1-3rd trimester with check makes and colors
  - Usual dose, alternatives, RID, ½ life.
- Others?

Key Points

- There has been an increase in medication use in pregnancy
- Limited trials and guidance for medications in pregnancy
- Find resources to make informed decision

References

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- **Mansour O, Russo RG, Straub L, Bateman BT, Gray KJ, Huybrechts KF, Hernández-Díaz S. Prescription medication use during pregnancy in the United States from 2011 to 2020: trends and safety evidence. Am J Obstet Gynecol. 2024 Aug;231(2):250.e1-250.e16. doi: 10.1016/j.ajog.2023.12.020. Epub 2023 Dec 19. PMID: 38128861; PMCID: PMC11187710.**