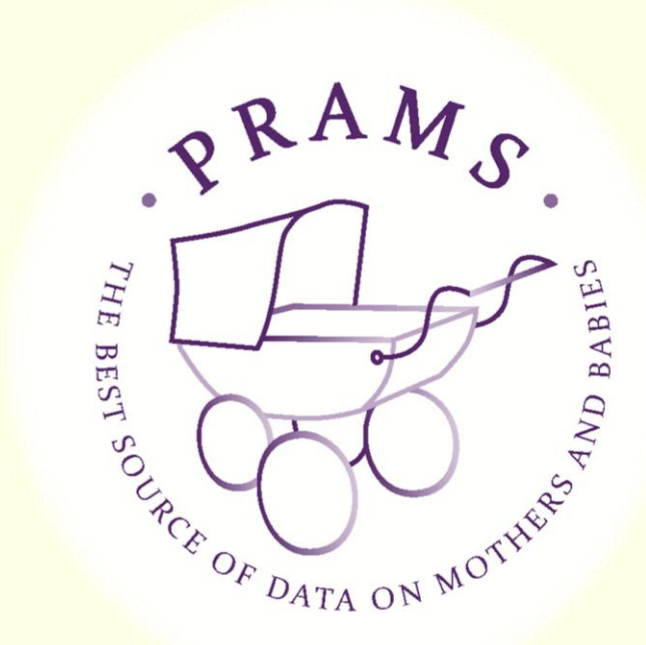


Prescription drug use during and immediately before pregnancy in Hawai'i

Data from the Hawai'i Pregnancy Risk Assessment Monitoring System, 2009-2010

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Background

- ❖ Some medications have documented teratogenic or otherwise harmful effects when used during pregnancy.
- ❖ There are relatively few population-based studies on perinatal prescription drug use.
 - Most available research findings come from non-population-based data sources with limited generalizability.
- ❖ The Pregnancy Risk Assessment Monitoring System (PRAMS) is an ongoing state-specific and population-based surveillance system.
 - Developed in 1987 to supplement vital record data by providing state-specific data on maternal behaviors and experiences that occur before, during, and after pregnancy
 - Funded by the United States Centers for Disease Control and Prevention (CDC)
 - Standardized data collection protocol:
 - Sample drawn from birth certificates of women having a recent live birth
 - Mailed questionnaire (self-administered)
 - Telephone follow-up for non-responders
 - At the end of the data collection year, CDC weights the data files to account for nonresponse and other factors based on extracted birth certificate data items.
 - Hawai'i became an official PRAMS state in 2000.
- ❖ The population of Hawai'i is unique in many ways.
 - Generalizability of data from other areas to Hawai'i is unclear with regards to many different topics within the field of maternal and child health (MCH).

Results

- ❖ Of women delivering live births in 2009-2010 in Hawai'i:
 - 14.5% (95% CI: 13.0-16.1) reported prescription use immediately before pregnancy
 - 18.3% (95% CI: 16.6-20.1) reported using prescription drugs during their most recent pregnancy
- ❖ The most commonly-reported medication types taken before pregnancy were:
 - pain relievers (2.8%; 95% CI: 2.2-3.7)
 - asthma/allergy (2.8%; 95% CI: 2.2-3.6)
 - anti-infectives (2.3%; 95% CI: 1.7-3.1)
 - psychiatric (2.2%; 95% CI: 1.6-2.9)
- ❖ The most commonly-reported medication types taken during pregnancy were:
 - anti-infectives (4.2%; 95% CI: 3.4-5.1)
 - asthma/allergy (3.4%; 95% CI: 2.7-4.3)
 - gastrointestinal (3.3%; 95% CI: 2.5-4.2)
 - pain relievers (3.2%; 95% CI: 2.5-4.2)
- ❖ Of women reporting prescription use during pregnancy, 10.0% reported that their healthcare provider had not counseled them during prenatal care on which medicines are safe to use during pregnancy (95% CI: 7.3-13.5).
 - Women who did not report prescription drug use: 14.2% [95% CI: 12.6-16.0]
 - Overall: 13.4% [95% CI: 12.0-15.0]

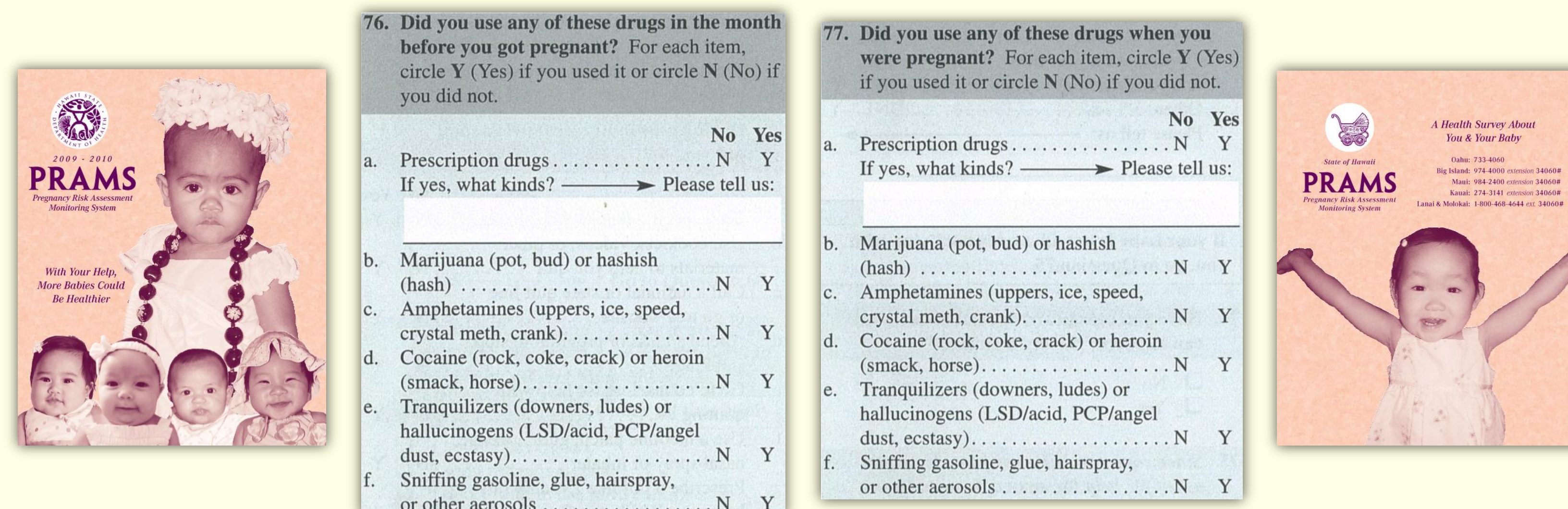
Limitations

PRAMS Survey Data Limitations

- Findings are not applicable to all pregnancies in Hawai'i - only to women who had live births
- Self-reported data
 - Recall bias
 - Reporting bias
- Mode bias (mail versus telephone survey)
- Selection bias
 - Nonresponse bias
 - PRAMS nonresponse weights assume that the women in a particular subgroup who responded have the same response as those who did not respond. Is this a valid assumption?

Hawai'i PRAMS Prescription Drug Use Data Limitations

- Issues with comprehension of this specific question
 - Some medications listed likely not prescribed (OTC)
- Specific medication sometimes unknown
 - Some answers did not specifically refer to drug name
 - Some women did not know what they took
 - Some women did not want to disclose what they took
 - Sometimes unsure what drug they were referring to
- Do not have information on:
 - Dosages or frequency
 - Trimester of usage
 - Some drugs are dangerous at certain times only
 - If it was prescribed to the individual taking it



Methods

- ❖ Hawai'i PRAMS data from 3180 respondents were used to estimate prevalence of overall prescription drug use during and in the month before pregnancy.
- ❖ Data were weighted to be representative of all pregnancies resulting in live births in Hawai'i in 2009 and 2010.
- ❖ Vitamins and supplements were excluded from the analysis.
- ❖ Write-in answers coded into categories using SAS 9.2 using "string" and "upcase" commands.
- ❖ Prevalence estimates and confidence intervals were generated using SAS-callable SUDAAN 10.0 to account for complex sampling.
- ❖ Write-in responses were manually reviewed in order to properly adjust for misspellings, multiple drugs listed, and other factors.
- ❖ In cases where initial determination was difficult, clinicians and other sources were consulted to determine which drug was being referenced.
- ❖ If classifying an entry was not possible, it was coded as "Unknown".
- ❖ Medications with possible indications in multiple groups were cross-checked with maternal and/or birth certificate report of diagnoses to determine most likely group for categorization.
- ❖ Entries > 30 characters were listed in separate comment file; these responses were also manually reviewed and then coded into groups by individual ID number.

Public Health Implications

As prescription drug use among the general public becomes more widespread, there is an increased need for careful monitoring by health care providers of usage in pregnant and reproductive-aged women.

Counseling on potential risks to mother and fetus should be emphasized during prenatal care visits to assure that women are informed and empowered to make the best decisions for themselves and their babies.

Special Thanks

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All the mothers that responded to the Hawai'i PRAMS survey

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