



# Overdose Deaths Increased in Pregnant and Postpartum Women From Early 2018 to Late 2021

Among those aged 35 to 44, overdose mortality more than tripled during this period, NIH study reports.

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Drug overdose deaths rose markedly between January to June 2018 and July to December 2021 among 10- to 44-year-old girls and women who were pregnant or pregnant within the previous 12 months, according to a new study by researchers at National Institute on Drug Abuse (NIDA) at the National Institutes of Health.

Overdose mortality more than tripled among those aged 35 to 44 during the study period, from 4.9 deaths per 100,000 mothers aged 35 to 44 with a live birth in the 2018 period to 15.8 in the 2021 period. Over 60% of these pregnancy-associated overdose deaths occurred outside healthcare settings, though often in counties with available healthcare resources, such as emergency and obstetric care. Published today in [JAMA Psychiatry](#), the findings suggest that, while treatment is available to pregnant women with substance use disorders, significant barriers – such as penalization, stigma, discrimination, and limited socioeconomic resources – may obstruct the path to care, the authors note.

“The stigma and punitive policies that burden pregnant women with substance use disorder increase overdose risk by making it harder to access life-saving treatment and resources,” said Nora Volkow, MD, NIDA Director and senior author on the study. “Reducing barriers and the stigma that surrounds addiction can open the door for pregnant individuals to seek and receive evidence-based treatment and social support to sustain their health as well as their child’s health.”

While it’s well documented that overdose mortality [rose sharply](#) in association with the COVID-19 pandemic, little is known about the specifics of pregnancy-associated overdose mortality during this time. Moreover, the differences in the characteristics of pregnant and postpartum women who died from a drug overdose and those who died of childbirth-related, or obstetric, causes are unknown.

To fill these knowledge gaps, NIDA scientists analyzed U.S. data on multiple cause of death, county-level area health resources, county health rankings, and U.S. births before and during the

COVID-19 pandemic – January to June 2018 and July to December 2021. This study focused on individuals aged 10 to 44 belonging to three groups: 1,457 at the pregnant and postpartum stage who died from a drug overdose involving the most common drugs of misuse, excluding alcohol and antidepressants; 4,796 who died of obstetric causes; and 11,205 who died from a drug overdose and were not pregnant in the past 12 months. The study assessed trends in “pregnancy-associated mortality ratios,” which were defined as the number of deaths during or within one year of the end of pregnancy per 100,000 mothers with a live birth.

The researchers found that overdose mortality ratios increased substantially for women who were pregnant or postpartum during the study period, across almost all examined age, racial/ethnic, educational, and marital status groups. The largest increase was observed in pregnant and postpartum women aged 35 to 44, for whom overdose mortality ratios tripled—from 4.9 in the 2018 period to 15.8 in 2021 period. Among those aged 10 to 44 who died between 43 days and one year after pregnancy, overdose mortality ratios almost doubled from 3.1 in the 2018 period to 6.1 in the 2021 period.

Girls and women who died from a drug overdose during pregnancy, compared to those who died from obstetric causes, were more likely to be aged 10 to 34 (75.4% compared with 59.5%), be non-college graduates (72.1% versus 59.4%), be unmarried (88.0% vs. 62.1%), and die in “non-home, non-healthcare settings” (25.9% vs. 4.5%). Unlike most individuals who died from obstetric causes and in a hospital inpatient setting, 60% to 73% of pregnant and postpartum women who died from an overdose were either at home or other non-healthcare places.

Overdose deaths among pregnant and postpartum women also often occurred in areas where there were medical services available, but potentially not accessed. Pregnant and postpartum women who died from an overdose, compared to those who died from obstetric causes, were more likely to reside in counties with doctors practicing obstetrics and gynecology ranking within the 48 to 75th percentile among U.S. counties (32.9% vs. 25.5%). Roughly 51% to 53% of pregnant and postpartum women who died from overdoses resided in counties with at least two general hospitals ranked at the 95th percentile for obstetric care among U.S. counties, and 58% to 67% resided in counties with numbers of practicing psychiatrists per 100,000 county residents ranking over the 75th percentile among U.S. counties.

“These results reflect the persistent national overdose crisis and demonstrate that pregnancy is an urgent time for interventions that can reduce the risk of overdose,” said Emily Einstein, PhD, NIDA Science Policy Branch Chief and study co-author. “Stigmatizing and penalizing women with substance use disorders makes it very hard for them to seek help for drug use and receive routine prenatal care. Effective treatments and medical services exist – unfettered access is needed to help mothers and children survive.”

Previous research has shown that pregnant women are [less likely](#) to receive an appointment to an addiction treatment center; have difficulties obtaining child care at treatment facilities; and in many states, face [punitive policies](#) for their substance use, including fines, loss of custody of their children, involuntary commitment, and incarceration. In states with punitive policies, pregnant

women who use drugs [have a lower likelihood](#) of receiving timely or quality care. These policies can result in adverse outcomes for their families as well, as children in states with these punitive policies are [less likely](#) to be reunited with their parents than those in other states – a system that [disproportionately affects](#) Black and American Indian/Alaska Native children.

Future studies are needed to better understand and address these disparities, and to build upon accumulating evidence on the association of overdose mortality in pregnant and postpartum women with poverty and lack of adequate healthcare. More research is also needed on the risk and protective factors of pregnancy-associated mortality among people with and without drug use.

For more information on substance and mental health treatment programs in your area, call the free and confidential [National Helpline](#) 1-800-662-HELP (4357) or visit [www.FindTreatment.gov](http://www.FindTreatment.gov).

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