



Fetal Exposure to Cannabis: A Review of the Literature

With the legalization of marijuana in Colorado, it is important to root policy and healthcare decisions in the best scientific evidence available. This summary of the literature aims to educate healthcare providers, policymakers, consumers and cannabis industry professionals about the *known* health risks of prenatal cannabis exposure.

*It is important to note that there are **legal risks** for pregnant folks who use cannabis, irrespective and independent of the health risks.*

A few notes about the literature on cannabis exposure *in utero*

- Prenatal cannabis exposure has been studied for a long time; two longitudinal studies have examined the effects of prenatal marijuana use on fetus', newborns and infants for over 30 years^{1,2}, another study is ongoing over 15 years³.
- The US project (Maternal Health Practices and Child Development Study, MHPCD) began in 1982 and was funded by the National Institutes of Drug Abuse. This study examined the impact of prenatal marijuana use in families living in poverty and half of the subjects identified as African-American².
- Many of study participants used both cannabis and tobacco, making it extraordinarily difficult to separate the effects of tobacco exposure from cannabis exposure⁴.
- Tobacco use, poverty and race are known to increase the risk of preterm birth, low birth weight babies, as well as attention and cognitive deficits in adolescents⁵⁻¹¹.
- The risk associated with race, poverty or tobacco exposure is hard to separate from the risk of cannabis exposure; these data should be interpreted with caution.
- It is important to note that finding an increased risk does not equate to finding causation. For example, it has not been proven that race causes low birth weight.

The reported negative effects of prenatal cannabis exposure are minimized or eliminated when in utero exposure to poverty and tobacco are eliminated and the postnatal environment supports the wellbeing of the entire family.

The potential birth outcomes that have received the most attention in the scientific literature are preterm birth, low birth weight/small for gestational age (LBW/SGA), and NICU admission.

- ✓ **Though some studies show a risk for LBW/SGA with prenatal cannabis exposure, others do not.**
 - The CDC¹², the National Academy of Sciences¹³ and a review published in the journal *Pediatrics*¹⁴ found no relationship between cannabis exposure *in utero* and LBW/SGA.
 - The NAS reports LBW/SGA outcomes may be more common following prenatal smoke exposure of any kind¹³.
 - Recent Colorado data found no increased risk for SGA¹⁵.

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- ✓ **In some studies, preterm birth and NICU admission is associated with cannabis exposure *in utero*. An equal number of studies do not show this relationship.**
 - Recent data from Colorado support this conclusion¹⁵.
 - The CDC¹², the National Academy of Sciences¹³ and a review published in the journal *Pediatrics*¹⁴ found no relationship between cannabis exposure *in utero* and LBW/SGA, preterm birth, or NICU admission.
 - The NAS reports LBW/SGA outcomes may be more common following prenatal smoke exposure of any kind¹³.
 - Recent re-analyses of previously published data demonstrate that cannabis exposure prenatally does not increase the risk of these outcomes when race, poverty and tobacco use are considered¹⁶⁻¹⁹.

The potential long-term outcomes of prenatal cannabis exposure that have received the most attention in the scientific literature are an increased risk for cognitive/attention deficiencies in adolescence and an increased risk for psychiatric disorders in young adulthood.

- The majority of the data demonstrating an increased risk of these long-term outcomes come from a single study, in which over half of the participants were African-American families living in poverty. Poverty and racial disparities in school are known to increase the risk of cognitive/attention deficiencies in adolescence⁵⁻¹¹. Again, finding an increased risk does not equate to finding causation.
- School interventions appear to reduce the risk of these outcomes, particularly in white children^{20,21}.
- The literature does not demonstrate a clear link between prenatal cannabis exposure and psychiatric disorders.
- Recent evidence suggests the presence of parental psychiatric disorders play a substantial role in the risk of these long-term outcomes and cannabis exposure is not an independent factor²².
- The National Academy of Sciences, in a review of the literature, reported no evidence for a relationship between psychiatric disorders and prenatal cannabis exposure¹³.

Exaggerated fears about the risks to newborns lead to bad policy outcomes with high costs to families and the state including:

- Excessive investigation of pregnant people by Child Protective Services is harmful to families.
 - Legal users are being investigated because some social workers and health care providers consider newborn marijuana exposure de facto abuse or neglect.
- Cannabis users face bias in family law decisions.
 - Family law attorneys and judges rely on outdated and biased reports instead of the best available evidence.
- When compared with other risks (guns, cars, accidents) and exposure to other substances (tobacco, alcohol, pollution) fetal prenatal exposure to cannabis is relatively low risk¹⁴ (see CDC FastStats).
- Poverty remains the highest risk to child development⁶.

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