

Fetal marijuana exposure and health effects (1)—APPROVED STATEMENTS

	Evidence Reviews			APPROVED STATEMENTS
	Institute of Medicine Review article, 1999 (pg 122-136)	Colorado Report** Review article, 2014 (pg 75-86)	Oregon--Washington County Review article, 2014 (pg 35-36)	Oregon Public Health Division Approved Statements
General	No reference	No reference	No reference	There is no known safe level of marijuana use during pregnancy. Marijuana use during pregnancy may have negative effects on the fetus, regardless of when it is used during pregnancy.
THC transfer to fetus	No reference	No reference	THC crosses the placental barrier and directly affects the fetus ¹	THC can pass from the mother to the fetus through the placenta. The fetus can be exposed to THC used by the mother.
IQ and Cognitive Effects	No lasting differences in language development, reading scores, and visual or perceptual tests. Moderate cognitive deficits found at 4 days old and 4 years old, but not apparent at 5 years of age. ²	MODERATE evidence for association with decreased IQ scores, reduced cognitive function, and decreased academic ability in adolescence ^{3,4,5,6,7,8,9,10}	Second trimester marijuana exposure associated with lower IQ scores ¹ First trimester marijuana exposure associated with poorer reading and composite scores on the Welscher Individual Achievement Test at 14 years of age ¹⁰	Maternal use of marijuana during pregnancy may be associated with negative effects on exposed offspring, including decreased academic ability, cognitive function and attention. These effects may not appear until adolescence. Scientific literature on this topic is limited.

**The Colorado report produced evidence statements which were classified by strength of evidence reviewed:

SUBSTANTIAL – evidence indicates robust scientific findings that support the outcome and no credible opposing scientific evidence;

MODERATE – evidence indicates that scientific findings support the outcome, but these findings have some limitations;

LIMITED – evidence indicates modest scientific findings that support the outcome, but these findings have significant limitations;

MIXED – evidence indicates both supporting and opposing scientific findings for the outcome with neither direction dominating;

INSUFFICIENT – evidence indicates that the outcome has not been sufficiently studied.

Fetal marijuana exposure and health effects (2)—APPROVED MESSAGES

	Evidence Reviews			APPROVED MESSAGES
	Institute of Medicine Review article, 1999 (pg 122-136)	Colorado Report Review article, 2014 (pg 75-86)	Oregon--Washington County Review article, 2014 (pg 35-36)	Oregon Public Health Division Approved Messages
Behavioral Effects	<p>In a study of neonates born to Jamaican women who did or did not ingest marijuana during pregnancy, there was no difference in neurobehavioral assessments made at three days after birth and at one month.¹¹</p> <p>Lower ‘executive function’ scores for 9-12 yo after prenatal marijuana exposure. Mothers described children as more impulsive or hyperactive.^{8,12}</p>	<p>MODERATE evidence for association with attention problems^{13,14,15,16}</p> <p>MIXED evidence for association with newborn behavior issues^{11,17,18,19}</p> <p>LIMITED evidence for association with increased depression symptoms and delinquent behaviors^{20,21}</p> <p>INSUFFICIENT evidence for association with psychosis symptoms²²</p>	<p>Associated with increased risk for aggressive behavior and attention problems in girls as early as 18 months of age¹³</p>	<p>Maternal use of marijuana during pregnancy may be associated with negative effects on exposed offspring, including decreased academic ability, cognitive function and attention. These effects may not appear until adolescence. Scientific literature on this topic is limited.</p> <p>Marijuana use during pregnancy may be associated with increased depression symptoms and delinquent behaviors in exposed offspring. Scientific literature on this topic is limited.</p>
Marijuana use by exposed offspring	<p>No reference</p>	<p>MIXED evidence for association with frequency of adolescent marijuana use^{23,24}</p> <p>INSUFFICIENT evidence for association with adolescent initiation of marijuana use²³</p>	<p>No reference</p>	<p>There is conflicting research for whether or not marijuana use during pregnancy is associated with increased marijuana use in exposed offspring.</p>

Fetal marijuana exposure and health effects (3)—APPROVED MESSAGES

	Evidence Reviews			APPROVED MESSAGES
	Institute of Medicine Review article, 1999 (pg 122-136)	Colorado Report Review article, 2014 (pg 75-86)	Oregon-- Washington County Review article, 2014 (pg 35-36)	Oregon Public Health Division Approved Messages
Still Birth	No reference	LIMITED evidence for association with increased risk of stillbirth ²⁵	Increased risk of still birth ²⁵	Marijuana use during pregnancy may be associated with an increased risk of stillbirth. Scientific literature on this topic is limited.
Preterm Delivery	Except for adolescent mothers, there is little evidence that gestation is shorter in mothers who smoke marijuana ^{26,27}	MIXED evidence for association with preterm delivery ^{28,29,30,31,32,33,34}	Increased risk of preterm labor ²⁹	
Birth Weight	Regular marijuana smoking during pregnancy associated with lower birth weight; relative contribution of tobacco use not known ^{35,36} 3.4 ounces lower on average than non-exposed offspring; No difference when study used self-reported marijuana use ²⁶	MIXED evidence for association with decreased birth weight, and being born small for gestational age ^{25-27,29-31, 37,38,39,40,41,42,43,44}	Birth weight 90 grams/0.20 lbs. lighter than non-exposed offspring ¹ Increased risk of offspring being small for gestational age ²⁹	
Growth	No reference	MODERATE evidence for association with decreased growth ^{45,46}	No reference	
SIDS	No reference	LIMITED evidence that there <u>is not</u> an association with SIDS ^{47,48,49}	No reference	

Fetal marijuana exposure and health effects (4)—APPROVED MESSAGES

	Evidence Reviews			APPROVED MESSAGES
	Institute of Medicine Review article, 1999 (pg 122-136)	Colorado Report Review article, 2014 (pg 75-86)	Oregon-- Washington County Review article, 2014 (pg 35-36)	Oregon Public Health Division Approved Messages
Birth Defects	No statistically significant difference in congenital anomalies ²⁶ “Newborns of mothers who smoke either marijuana or tobacco have statistically significantly higher mutation rates than those of nonsmokers.” ^{50,51}	MIXED evidence for association with birth defects; including neural tube defects and gastroschisis ^{28,37,52,53,54,55,56} LIMITED evidence for association with heart defects ⁵⁷	Rate of birth defects in exposed offspring “significantly higher than expected for 35% of defects including obstructive genitourinary defect, polydactyly, syndactyly, and reduction deformity of upper limbs.” ⁵²	Marijuana use during pregnancy may be associated with an increased risk of heart defects (isolated simple ventricular septal defects) in exposed offspring. Scientific literature on this topic is limited.

Breast fed infants: Marijuana exposure and health effects (1)—APPROVED MESSAGES

	Evidence Reviews		APPROVED MESSAGES
	Colorado Report** Review article, 2014 (pg 75-86)	Oregon--Washington County Review article, 2014 (pg 35-36)	Oregon Public Health Division Approved Messages
General	Biological evidence shows that THC is present in the breast milk of women who use marijuana ⁵⁸	Marijuana can be detected in breast milk after recent maternal use ⁵⁹	THC can be passed from the mother's breast milk to the infant. THC exposure may affect the baby.
THC absorption	Biological evidence shows that exposed infants absorb and metabolize the THC ⁵⁸	In one feeding, the exposed infant would intake 0.8% of the weight adjusted maternal intake of one joint ⁶⁰ Exposed infants will excrete THC in their urine for 2-3 weeks ⁶⁰	
Motor Development	MIXED evidence for association with motor development in exposed infants ^{61,62}	Decrease of motor development found at one year of age ⁶² Exposed infants show signs of sedation, reduced muscular tonus, and poor sucking ⁶⁰	
SIDS	INSUFFICIENT evidence that infant exposure (from breast feeding or marijuana smoke) is associated with SIDS ⁶³	No reference	

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