



The Effects of Maternal Caffeine Consumption on the Outcome of the Child



Background and Rationale

- Caffeine popularity and abundance
 - Found in tea, coffee, energy drinks, sodas¹
- Caffeine consumption in pregnant women
 - Potential adverse outcomes in the infant
 - Low birth weight, preterm births, miscarriages²
- Caffeine easily crosses placental barrier
- Intake should not exceed 200 mg/day^{1,2}

¹Peacock, Hutchinson, Wilson et al. 2018: ²Wierzejska, Jarosz, Wojda et al. 2019



Background and Rationale

- Previous Studies
 - Show no adverse effects on infant outcomes^{1,2,3}
 - Show higher chance of having a child who was preterm⁴
 - Average age and median age is 30 years old^{1,2,5}
 - Coffee has been the main source of caffeine studied^{1,2,5}



Purpose

- To examine the correlation between maternal intakes of caffeine in varied amounts on birth outcomes and to study the long-term anthropometric effects on the infant up to 1 year after birth



Hypothesis

- We hypothesize that increased caffeine consumption through coffee, tea, sodas, and energy drinks will negatively impact birth outcomes in children born from women aged 15 to 22 years old and that the child's growth will be affected up to one year after birth.



Study Design

This study is :

- Prospective
- Longitudinal
- Observational



Overview

Number of Subjects: 100

Number of Study Centers: 7

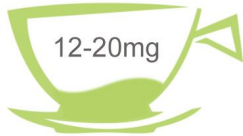
Duration of Subject Participation: 30 months

Duration of Study: 4 years

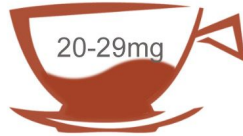
CAFFEINE CONSUMPTION QUESTIONNAIRE

8

Green Tea vs Black Tea vs Coffee (per 100ml)



Green Tea



Black Tea



Coffee

			Dose	Avg./Day
<u>Beverages</u>				
Coffee (6 oz.)	125 mg	X	_____	_____
Decaf Coffee (6 oz.)	5 mg	X	_____	_____
Espresso (1 oz.)	35 mg	X	_____	_____
Tea (6 oz.)	50 mg	X	_____	_____
Green tea (6 oz)	20 mg	X	_____	_____
Energy drinks (12 oz...caffeine equivalent)	250 mg	X	_____	_____
Hot cocoa (6 oz.)	15 mg	X	_____	_____
Caffeinated Soft Drinks (12 oz.)	40-60 mg	X	_____	_____
Chocolate candy bar	20 mg	X	_____	_____
<u>Over-the-Counter Medications</u>				
Anacin	32 mg	X	_____	_____
Appetite-control pills	100-200 mg	X	_____	_____
Dristan	16 mg	X	_____	_____
Excedrine	65 mg	X	_____	_____
Extra Strength Excedrine	100 mg	X	_____	_____
Midol	132 mg	X	_____	_____
NoDoz	100 mg	X	_____	_____
Triaminicin	30 mg	X	_____	_____
Vanquish	33 mg	X	_____	_____
Vivarin	200 mg	X	_____	_____
<u>Prescription Medications</u>				
Cafergot	100 mg	X	_____	_____
Fiorinal	40 mg	X	_____	_____
Darvon compound	32 mg	X	_____	_____

TOTAL MG. CAFFEINE PER DAY _____

> 250 milligrams per day *may* interfere with deep sleep



Methods

- Recruitment:
 - 100 Females (WIC eligible)
 - 15-22 year-olds
 - Up until 8 weeks gestational
- Inclusion Criteria:
 - Non-smokers
 - Healthy weight status (BMI 18.5-25)
- Exclusion Criteria:
 - Drug or alcohol use
 - Pre-existing health conditions (i.e. diabetes, heart disease, high blood pressure)



Methods

- Complete online caffeine consumption questionnaire (CCQ-R) every 2 weeks
 - Measures overall consumption of caffeinated beverages
- Must submit 75% of the CCQ-Rs for their data to be valid
- RDs will categorize intake through ranges
 - Low: 1-100 mg/d
 - Moderate: 101-200 mg/day
 - High: > 200 mg/day



Methods

- Record infant's height, weight, and head circumference at birth
- Continue to collect measurements and plot on WHO growth chart at:
 - 3 months
 - 6 months
 - 9 months
 - 1 year
- At the conclusion, compile all data
- Researchers will determine the results



References

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