

Coffee and Pregnancy

Overview

With increased attention being paid to nutrition and health issues, many women, especially those of child bearing age, are concerned about what they eat and drink during pregnancy and whilst breast feeding. Women's health, including nutrition during pregnancy and lactation, is an area of active research. The collective research supports moderate consumption of caffeine. Most scientific bodies around the world currently recommend a caffeine intake of below 300 mg/day during pregnancy. [Scientific Committee on Food (SCF), American Dietetic Association (ADA), German Society for Nutrition (DGE)] Most recently, the UK Food Standards Agency (FSA) has suggested an upper limit for pregnant women of only 200 mg/day. Similar advice is provided by the US based charity, March of Dimes. It remains to be seen whether this precautionary point of view will be endorsed by scientific bodies around the world.

Reproductive Health

There are several comprehensive review papers that examine the relationship between caffeine and reproductive health. A review by Leviton and Cowan (2000) found that caffeine does not cause any of several specifically examined unfavourable outcomes such as delayed conception, miscarriage, birth defects, premature birth, and low birth weight.

Fertility

Nawrot et al. (2003) noted in their review of caffeine that most epidemiological studies on caffeine and fertility were affected by methodological issues, including inadequate measurement of caffeine intake, inadequate control for possible confounding factors, such as smoking, reporting errors among participants taking part in research studies, lack of data on and, in some studies, inadequate sample size. Despite these limitations, the epidemiological studies generally indicate that consumption of caffeine at levels at or below 300 mg per day, or approximately three regular size cups of coffee per day, did not reduce fertility in otherwise fertile women.

A study on the effects of alcohol and caffeine on fertility demonstrated a significant risk only when alcohol and caffeine were consumed together since no effects were observed when caffeine was consumed alone. (Hakim and Gray, 1998) Based on the available data from epidemiological studies, Higdon and Frei (2006) suggested that it may be advisable for women who are having difficulty conceiving to limit caffeine consumption to less than 300 mg/day, in addition to eliminating tobacco use and decreasing alcohol consumption.

In a study by Olsen (1991) of 2,817 women, average time to conception was no different in women who consumed more than 7g caffeine per month (equivalent to 230 mg

caffeine/day) than in those who did not. A further study of 11,000 pregnant Danish women showed no link between caffeine consumption and conception time. (Joesoef and Wilcox, 1990)

A comprehensive review, published in 2002, of studies suggesting a link between moderate caffeine consumption and risk of reproductive hazards concluded that: “No convincing evidence has been presented to show that caffeine consumption increases the risk of any reproductive adversity”. (Leviton and Cowan, 2000)

Miscarriage

There have been numerous epidemiological studies examining the relationship between coffee or caffeine intake by pregnant women and the risk of miscarriage. Some studies have observed associations between caffeine intakes greater than 300 mg/day and the risk of miscarriage, whereas other studies have not. (Higdon and Frei, 2006) While individual epidemiological studies cannot prove cause and effect, they can contribute to the wealth of information on potential observed effects. However, they must be taken within the context of the entire body of data. (Nawrot et al., 2003) Three reviews were carried out on the effect of coffee and caffeine on miscarriage, but none of them were able to draw concrete conclusions due to methodological issues with the studies reviewed. (Signorello and McLaughlin, 2004; Lawson and LeMasters, 2004; Matijasevich et al., 2005)

Stein and Susser (1991) hypothesized that the nausea commonly seen in pregnancy may create an erroneous association between caffeine consumption and miscarriage. Nausea is associated with increasing hormone levels during a normal pregnancy and is significantly less common in pregnancies that end in miscarriage. A more recent study by Lawson et al. (2002) demonstrated that early pregnancy hormone metabolite levels, pregnancy symptoms, and coffee consumption patterns are significantly associated with each other. While higher hormone levels were associated with coffee aversion and nausea, lower levels were not. As a result, caffeine could be commonly misperceived to be associated with miscarriage. In fact, nausea due to pregnancy leads to coffee aversion by some women. The authors consider this to be an important variable in investigating any possible relationship between coffee/caffeine consumption and miscarriage; as in many cases nausea is a self-regulating mechanism for reducing caffeine consumption by pregnant women. (Lawson, et al., 2002) Although the topic remains controversial, the reviews by Nawrot et al. (2003) and Higdon and Frei (2006) both concluded that maternal consumption of no more than 300 mg/day of caffeine, or approximately three regular size cups of coffee per day, is unlikely to increase the risk of miscarriage.

Birth Defects

The majority of epidemiological studies have found that maternal caffeine consumption is not associated with increased risk of congenital malformations, or birth defects, in foetuses. (Higdon and Frei, 2006) At present, there are no convincing indications from epidemiological studies that moderate to high caffeine consumption by pregnant women ranging from 300–1,000 mg per day throughout the entire pregnancy increases the risk of birth defects. (Nawrot et al., 2003) However, in light of other women's health issues, such as fertility and miscarriage, pregnant women are advised to keep caffeine consumption at or below 300 mg/day (or approximately three regular size cups of coffee).

Foetal Growth

Grosso et al. (2001) studied the effects of caffeine consumption on foetal growth during the first and seventh months of pregnancy. Mothers were interviewed before 16 weeks of gestation and just after birth to determine their caffeine consumption. The babies were weighed within 24 hours of birth. The study found no relationship between caffeine intake and impaired foetal growth. Another study attempted to determine whether a relationship exists between smoking and caffeine intake and the birth weight and size of newborns. All weights and sizes were lower for smokers versus non smokers. However, both smoking and non-smoking women with caffeine intakes greater than 300 mg/day gave birth to newborns with significantly lower weights compared to women consuming less than 300 mg of caffeine per day. The lengths and head circumferences of the newborns, however, did not change significantly. The authors concluded that smoking was the constant factor in the negative results and should be avoided, and that caffeine intake should be kept at levels of 300 mg/day or less (equivalent to 3 or less regular size cups of coffee per day) during pregnancy. (Balat et al., 2003)

Conclusion

Many studies have shown that moderate coffee consumption among women trying to conceive, during pregnancy or whilst breast feeding is perfectly safe. Whilst the majority of research suggests that caffeine intake at or below 300 mg per day (equivalent to 3 or less regular size cups of coffee) is safe; recent guidelines published by the UK Food Standards Agency recommend that maternal caffeine intake during pregnancy should be no greater than 200 mg per day, which is equivalent to two regular cups of coffee. It remains to be seen whether this precautionary point of view will be endorsed by scientific bodies around the world.

Frequently Asked Questions

Q. Is it safe to drink coffee during pregnancy?

A. Yes. Scientific studies have shown that moderate coffee consumption whilst trying to conceive, during pregnancy and whilst breast feeding is perfectly safe.

Q. How much coffee is safe to drink during pregnancy?

A. The majority of scientific studies suggest that caffeine intake of 300 mg or less per day (approximately 3 regular sized cups of coffee) is safe. Most women are drinking less coffee during pregnancy due to nausea or aversion to coffee.

The UK Food Standards Agency recommends 200 mg of caffeine or two cups of coffee per day for women whilst trying to conceive and during pregnancy and lactation. Similar advice is provided by the US based charity, March of Dimes. ; It remains to be seen whether this precautionary point of view will be endorsed by scientific bodies around the world.

Q. I've heard that drinking coffee during pregnancy can cause a miscarriage?

A. Research does not indicate that moderate caffeine or coffee consumption increases the risk of miscarriage. Scientific research has shown that an increased level of a hormone which exists in a normal pregnancy is associated with coffee aversion and lower levels of hormone were not. As a result caffeine/ coffee are commonly – misunderstood to be associated with miscarriage.

Q. What about the effects of drinking coffee on fetal development and birth weight. Is my baby at risk if I drink coffee?

A. The vast majority of scientific research has found that maternal consumption of coffee and caffeine, in moderation, is not associated with increased risk of congenital malformations, or birth defects in foetuses. Research also has not found a relationship between moderate coffee intake and impaired foetal growth.

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