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# BBC

# Coffee shop caffeine levels 'vary widely'

**By Eleanor Bradford** BBC Scotland Health Correspondent

High Street coffee shops could pose a risk to pregnant women because of big variations in the amount of caffeine in each cup, research suggests.

Analysis of espresso coffee from 20 shops found that one was six times stronger than others.

The Food Standards Agency (FSA) says too much caffeine can result in miscarriage or a low birth weight.

Researchers from Glasgow University tested caffeine levels in espressos bought from High Street coffee shops.

The FSA currently advises pregnant women to consume no more than 200mg of caffeine a day, based on an assumption that an espresso contains about 50mg of caffeine.

The guideline for an average healthy person is 300mg a day.

The work was led by Alan Crozier, senior research fellow in the faculty of medicine.

[**How much coffee is safe?**](http://www.bbc.co.uk/news/health-15982904)

"The analysis that we did showed the amount of caffeine ranged from 50mg per cup from Starbucks, up to over 300mg per cup from another coffee house, Patisserie Francoise," he said. "I was very surprised by this."

Drinking just one of the strongest cups of coffee would more than exceed the "safe" level for pregnant women.

"If you go to different coffee houses you can tell that some are much stronger than others," Mr Crozier said.

"The problem comes with people who should have a limited caffeine intake.

"You metabolise caffeine much more slowly when you're pregnant and people with liver disease do not have the enzymes to metabolise caffeine.

"Our data shows that you can have the recommended amount - and more - from just one shot of espresso."

The researchers point out that despite the increasing number of coffee shops on the High Street there is no information about the caffeine contents of various types of coffee.

They add that, although they only tested espresso coffees, many other types of drinks such as lattes and cappuccinos are prepared using single or double shots of espresso.

The study has been published [**in the Royal Society of Chemistry's journal Food and Function.**](http://pubs.rsc.org/en/journals/journalissues/fo)

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The Sun (England)

December 2, 2011 Friday   
Edition 1;   
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Do you have grounds for concern?;   
STUDY SHOWS CAFFEINE RISK  
  
**SECTION:** EDITORIAL; OPINION, COLUMNS; Pg. 8  
  
**LENGTH:** 251 words

A CUP of **coffee** at a cafe may be relaxing - but it could be damaging your **health.**

**Pregnant** women were warned yesterday they could be putting the **health** of their unborn babies at risk drinking **coffee** from chain cafes.

But the huge variations in caffeine levels can also have an impact on others.

Researchers at Glasgow University looked at espressos from 20 **coffee** shops and found the strongest had six times as much as the weakest.

At one cafe having two shots - which most use for a medium or large latte or cappuccino - was THREE times more than is recommended per cup.

Doctors say adults should only have around 200mg of caffeine at a time - and 200mg should be the DAILY limit for **pregnant** women.

Dr Alan Crozier, who led the research, said: "Although the response to caffeine varies from person to person, caffeine is generally cleared from the body in around five hours.

Disease "However, it can increase to 30 hours in women taking oral contraceptives, **pregnant** women, the developing foetus, young children and people with liver disease, which increases their susceptibility to caffeine toxicity."

In the study Starbucks was weakest with 51mg of caffeine per espresso. Costa by contrast had three times as much - 157mg.

[irishsun@the-sun.ie](mailto:irishsun@the-sun.ie" \t "_blank) SCIENTISTS tested the strength of standard **coffee** served in chain cafes - with espresso serving/ amount in one shot/ cups with two shots; Patisserie Francoise: 52ml, 322mg, 644mg.

Costa: 25ml, 157mg, 314mg. Baguette Express 45ml, 140mg, 280mg.

Starbucks 27ml, 51mg, 102mg.

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DAILY MAIL (London)

December 1, 2011 Thursday

WHY MOTHERS-TO-BE SHOULD AVOID A HIGH STREET **COFFEE**  
  
**BYLINE:** BY FIONA MACRAE  
  
**LENGTH:** 550 words

**PREGNANT** women could unwittingly be putting the **health** of their unborn baby at risk by drinking **coffee** from high street cafes, researchers warn.

An analysis of espressos from 20 **coffee** shops uncovered huge variations in the amount of caffeine they contain Z with the strongest having more than six times as much as the weakest.

Worryingly, the strongest example contained more than 50 per cent more caffeine in a single cup than a **pregnant** woman is advised to take over the course of an entire day.

Fears about birth defects, miscarriage and premature delivery mean that **pregnant** women are advised to limit themselves to 200mg of caffeine a day.

This is usually the equivalent of four cups of strong **coffee**, expected to contain 50mg of caffeine each.

But only one of the 20 **coffees** studied Z the one from Starbucks Z contained around this amount. All of the others were stronger.

Four had more than 200mg in a single cup, with the strongest having more than 300mg, the Royal Society of Chemistry journal Food and Function reports.

Researchers from Glasgow University bought single-shot espressos from 20 **coffee** shops in the city and measured their caffeine content.

The Starbucks espresso was the weakest, with 51mg of caffeine.

In contrast, espresso from Costa **Coffee** had more than three times as much caffeine, with a reading of 157mg.

At the top of the table was the espresso from Patisserie Francoise in the city's West End Z with 322mg of caffeine.

Repeating the experiment several times did not change the figures.

Researcher Alan Crozier said caffeine, which crosses the placenta to the unborn baby, usually takes five hours to break down in the body to half its previous level.

But the process can take up to 30 hours in certain groups, including children, liver disease sufferers and **pregnant** women.

An unborn baby's liver will struggle to break down caffeine, with potential long-term consequences.

Even taking the Pill can hamper processing of caffeine.

Dr Crozier, a senior research fellow at Glasgow University's school of medicine, said: 'The levels of caffeine per serving varied more than six-fold.

At the low level, a **pregnant** woman might safely drink four cups per day without significantly exceeding the recommended intake.

'At the higher end of the scale, even one cup of espresso will be well in excess of the advised limit.

'There is clearly a problem. People at risk could unwittingly ingest far more caffeine than they would ever dream of.'

Dr Crozier said the type of bean, the roasting process, grinding conditions and the **coffee**-making technique can all affect caffeine content, as well as the actual amount of **coffee** used.

He called for current guidelines on caffeine, from the Food Standards Agency, to be tightened and stricter monitoring of caffeine content.

A study of other **coffees** such as lattes and cappuccinos is also warranted, he said, as they are often made from an even stronger espresso base.

He added: 'There is every possibility this applies to all **coffee** shop **coffees** and not just espresso and not just in Glasgow.'

A spokesman for Starbucks said: 'It is nothing new that caffeine is bad for **pregnant** women.

We offer decaffeinated espressos in our stores.

The quantity of caffeine doesn't necessarily mean the **coffee** tastes weak.' Patisserie Francoise was unable to comment.

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The Express

December 1, 2011 Thursday   
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National Edition

Toxic **coffee** danger for mums-to-be  
  
**BYLINE:** Jo Willey  
  
**SECTION:** NEWS; Pg. 14  
  
**LENGTH:** 173 words

**PREGNANT** women are putting themselves and their unborn babies in danger by drinking **coffee** from high street chains, research claims.

A damning investigation into the caffeine content of **coffee** served in shops has highlighted "toxic" levels in some drinks.

One was selling **coffee** with a caffeine content six times higher than the lowest.

A study from the University of Glasgow highlights potential **health** concerns for expectant mums and women on the Pill.

It found that, in some cases, drinking just a single serving of espresso **coffee** from some shops could increase the risk of dangerous caffeine toxicity.

The effects of this can include headaches, chest pain, anxiety, increased heart rate and abdominal cramps.

But high caffeine intake during pregnancy can also result in low birth weight, increasing the risk of **health** problems like high blood pressure, Type 2 diabetes and heart disease for the baby in later life.

The UK Food Standards Agency recommends a limit of 200mg of caffeine a day for **pregnant** women - four cups of strong **coffee**.

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telegraph.co.uk

December 1, 2011 Thursday 6:43 AM GMT

Wake up to caffeine levels in your espresso, scientists urge;   
Some cups of **coffee** sold on the high street contain up to six times as much caffeine as those produced by rival outlets, a study has shown.  
  
**BYLINE:** By Stephen Adams and Andrew Hough  
  
**LENGTH:** 551 words

Researchers found large discrepancies in caffeine levels in espressos, contradicting the widespread belief that retailers follow a uniform set of guidelines.

Medical experts warned that the differences were potentially putting **pregnant** women at greater risk of miscarriage.

They found that café customers were unaware of the wide variations in caffeine levels.

The findings suggest that the general assumption that a cup of strong **coffee** contains 50mg of caffeine is misleading.

The Food Standards Agency (FSA) advises **pregnant** women to restrict their daily caffeine content to 200mg.

In their study, Glasgow University researchers found a sixfold difference in caffeine quantities in cups of espresso.

Their analysis, from 20 shops in the city, found that a cup bought from Starbucks contained the smallest amount of caffeine, 51mg.

This compared with 322mg from an independent café, Patisserie Françoise. An espresso from Costa contained 157mg.

A further three shops, University Café, Café Cinnamon and Paperino's, sold **coffee** containing more than 200mg.

The FSA warns that too much caffeine can result in a miscarriage or a baby having a lower birth weight.

The researchers warned that, without clear labelling, **coffee** shops were selling **coffees** with "substantial variations" in caffeine.

In 2008 American researchers found that women who drank more than 200mg of caffeine daily were at a 25 per cent greater risk of miscarriage in the first 20 weeks of pregnancy than those who drank none.

Alan Crozier, from Glasgow University's School of Medicine, said: "Despite the increasing number of **coffee** shops on the high street and in airports, there appear to be no recent publications on the caffeine contents of the various types of commercially prepared **coffees**.

"This snapshot of high street espresso **coffees** suggests the published assumption that a cup of strong **coffee** contains 50mg of caffeine may be misleading.

"Our data represent only a snap-shot of the caffeine contents of espresso **coffees**, but the range and scale of the results is sufficient to demonstrate that there is a problem, unlikely to be restricted to Glasgow."

Researchers analysed **coffees** ranging in cup size from 23ml to 70ml. Their findings are published in the Royal Society of Chemistry's Food and Function journal.

Dr Euan Paul, of the British **Coffee** Association said: "Caffeine content does vary between different blends that are available.

"The overall advice for **coffee** drinkers is that 400mg to 500mg of caffeine per day is safe and may confer some **health** benefits but it's important that **pregnant** women do limit their intake to 200mg per day, from all sources.

"For **pregnant** women that are concerned, switching to decaff **coffee** will ensure that they are drinking less caffeine whilst still enjoying their cup of **coffee**."

Experts say the effects of caffeine usually last around five hours for adults but can be as long as 30 hours.

Scientists say caffeine stays in the body longer in females taking an oral contraceptive, **pregnant** women, young children and people with liver disease.

Responses to caffeine vary with frequent **coffee** drinkers suffering headaches when caffeine is withdrawn.

Figures quoted in the study show more than £730m was spent on **coffee** last year with an annual average of 500g of **coffee** consumed per person.

**GUARDIAN**

**Miscarriage and health risk warning over excessive coffee consumption**

* [Denis Campbell](http://www.guardian.co.uk/profile/deniscampbell), health correspondent
* [The Guardian](http://www.guardian.co.uk/theguardian), Thursday 1 December 2011

Pregnant women have been urged to monitor their coffee consumption after research showed that a single cup in some high street cafes can contain more caffeine than official health advice says is wise.

The National Institute for Health and Clinical Excellence (Nice) recommends [no more than 300mg of caffeine a day](http://www.nice.org.uk/nicemedia/pdf/CG62FullGuidelineCorrectedJune2008.pdf) for pregnant women.

The [Food Standards Agency, though, recommends just 200mg daily](http://www.food.gov.uk/news/pressreleases/2008/nov/caffeineadvice) throughout [pregnancy](http://www.guardian.co.uk/lifeandstyle/pregnancy).

The [Royal College of Obstetricians and Gynaecologists (RCOG) backs this figure](http://www.rcog.org.uk/what-we-do/campaigning-and-opinions/statement/rcog-statement-fsa-guidance-caffeine-consumption-durin) but also recommends that women should also recommends complete abstention in the first three months.

A coffee in one shop can contain six times more caffeine than those bought in others, according to researchers from Glasgow University, who analysed levels in 20 premises.

They found that a single espresso in one independent cafe contained 322mg, while one from Starbucks had just 51mg, the lowest of the 20.

RCOG spokeswoman Dr Daghni Rajasingam said excess caffeine in pregnancy had been linked to an increased risk of a mother delivering a small baby or having a miscarriage.

Small babies are at greater risk of developing heart problems and cardiovascular disease later in life, she added.

Pregnant women should be aware that the caffeine content of coffee varies from shop to shop, should ask how strong a coffee is before they buy it and do their best to keep their intake down to no more than 300mg a day, and only after the first trimester, said Rajasingham.

The new research is published in [Food and Function, a journal produced by the Royal Society of Chemistry](http://pubs.rsc.org/en/journals/journalissues/fo). Caffeine is also found in tea, chocolate and in some soft drinks and medicines.

Dr Euan Paul, executive director of the [British Coffee Association](http://www.britishcoffeeassociation.org/), said: "Caffeine content does vary between different blends that are available.

The overall advice for coffee drinkers is that 400 - 500mg of caffeine per day is safe and may confer some health benefits but it's important that pregnant women do limit their intake to 200mg per day, from all sources.

For pregnant women that are concerned, switching to decaff coffee will ensure that they are drinking less caffeine whilst still enjoying their cup of coffee".