

Infertility is only a phone call away

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WRONG NUMBER !

Sperm counts are much reduced in men who make frequent use of mobile phones, scientists say.

Mobile phones have been identified as a **cause of reduced sperm production in men.**

Microwaves emitted by the phones **reduce** the number, mobility and quality of sperm **by almost half** in the heaviest users, to the point where **some men may become infertile**, scientists say.

This could have devastating consequences for fertility rates around the world.

Almost a billion people around the world use mobile phones, and the number is growing. Even a small effect on fertility could result in millions of men being rendered childless.

Concern about the health effects of mobile phones has been rising for 10 years, but very little hard evidence of the dangers has been presented.

Scientists from the Reproductive Research Centre at the Cleveland Clinic Foundation in Ohio, tested the sperm of 364 men being investigated for infertility.

They found that **the heaviest users of mobile phones** - more than four hours a day - had the **lowest sperm counts** at 50 million a millilitre and the least healthy sperm, judged by its mobility and the proportion of abnormal sperm.

Sperm counts were highest - 86 million a millilitre - and the sperm healthiest among those men who did not use mobile phones.

All men produce a high proportion of sperm that are abnormal, but in the **heaviest mobile users** the **"normal" sperm fell to 18 per cent** compared with 40 per cent in those who never used mobiles.

The study was carried out in Bombay, India, where mobile phones have not yet penetrated all social groups.

Professor Ashok Agarwal, director of the research centre, who led the study, said: "On all four parameters - sperm count, mobility, viability and morphology - there were significant differences between the groups.

"The greater the use of cell phones, the greater the decrease in these parameters [sperm count, mobility, viability and morphology]. That was very clear and very significant.

"People use mobile phones without thinking what the consequences may be. It is like using a toothbrush - but **mobiles could be having a devastating effect on fertility.** It still has to be proved, but it could have a huge impact because mobiles are so much part of our lives."

Among the heaviest users in the study, with an average sperm count of 50 million a millilitre, some had individual sperm counts of less than 20 million a millilitre.

This is below the threshold set by the World Health Organisation which defines infertility, Professor Agarwal said.

The finding, presented to the American Society for Reproductive Medicine meeting in New Orleans this week, **will spark renewed concern about the safety of mobile phones which have been blamed for a wide range of ill effects, from headaches to cancer.**

But critics said the only men likely to be affected were those who carried their phones in their pockets or on their laps, close to their testicles, while they made calls.

A report by Britain's National Radiological Protection Board published last year concluded there was "no hard evidence" that mobile phones caused harm, but it was **too early to say if they were safe**.

It said **health problems could take decades to emerge** and, because of the ubiquity of mobile phones, a **"precautionary approach" was necessary**.

Children, whose bodies were still developing, were most likely to be vulnerable, it said.

Another study last year by Professor John Aitken, a British researcher at the University of Newcastle in New South Wales, showed **radio waves of a similar frequency to those emitted by mobile phones damaged sperm DNA in mice**.

Other studies have shown the seminiferous tubules, where **sperm is produced in the testes, shrink when exposed to the speech transmission mode of mobile phones**.

Professor Agarwal said phone could be causing direct damage to the Leydig cells in the testes, which have been shown to be susceptible to microwaves, or could be setting up a heating effect or **damaging the sperm DNA**.

Among scientists sceptical of the study findings is Allan Pacey, senior lecturer in andrology at the University of Sheffield.

"This is a good-quality study but I don't think it tackles the issue," he said.

"If you're using your phone for four hours a day, presumably it is out of your pocket for longer.

"That raises a big question - how is testicular damage supposed to occur? If you are holding it to your head to speak, it makes no sense that it is having an effect on your testes.

"Maybe people who use a phone for four hours a day spend more time sitting in cars, which could mean there's a heat issue.

"It could be they are more stressed, or more sedentary and sit about eating junk food getting fat.

Those seem to be better explanations than a phone causing the damage at such a great distance."

But Alasdair Philips, director of the British consumer pressure group Powerwatch, said: "It's a **plausible link between the amount of time spent using a mobile phone and a possible effect on male fertility**.

The eyes, breasts and testicles are the areas of the body most likely to absorb the energy, and many men attach their mobiles to their belt."

"I've seen men on trains spending two or three **hours texting with their mobile phones held in their laps. They press 'send' in the same position, and the phone starts to seek a signal. This needs a considerable amount of power** within what is effectively a metal box.

"We advise people to send texts with their arm outstretched next to the window when travelling on a train."

He said **local heating of the groin triggered by a mobile phone might also affect sperm quality**. "Sperm is temperature-sensitive, and a short-term rise in temperature could be responsible."

INDEPENDENT

THE RISK: Are mobile phones killing men's sperm?

*** Yes, say Indian and American scientists who found reduced sperm counts among heavy mobile users.**

* Not necessarily, say other scientists, who cite other possible factors such as junk food or lack of exercise.