

15 March 2013 Last updated at 03:35 GMT

'Night shift link' to ovarian cancer



US researchers have found a link between working night shifts and the risk of ovarian cancer.

A study of more than 3,000 women suggested that working overnight increased the risk of early-stage cancer by 49% compared with doing normal office hours.

One possible explanation was disruption of the sleep hormone melatonin, the researchers said.

But experts warned more work was needed and there might be other explanations.

It does however follow an earlier association made between shift work and breast cancer.

The International Agency for Cancer Research has previously identified working shift patterns that disrupt the body's natural "clock" as a probable cause of cancer.

In the latest investigation, researchers looked at 1,101 women with advanced ovarian cancer, 389 with borderline or early disease and 1,832 women without the condition.

Overall, a quarter with advanced cancer said they had worked night shifts, compared with a third of those with borderline disease and one in five of the control group.

Analysis of the data showed a 24% increased risk of advanced cancer and 49% increased risk of early-stage disease for night workers compared with those who worked during the day.

But the results were only significant for women over the age of 50, the researchers reported in Occupational and Environmental Medicine.

And the risk did not seem to increase for those who had worked night shifts for the longest.

Night owls

Women were also asked whether they preferred being active in the morning, so called "larks", or were evening "owls".

More of those who described themselves as "owls" had worked night shifts.

There was some evidence there was a lower risk of cancer among the "owl" night workers, suggesting they may be more adaptable to working such shifts.

As has been shown in other studies, women with ovarian cancer were less likely to have taken the contraceptive pill and had fewer children.

The researchers said the women had done night shifts for an average of two to three years and in industries such as healthcare, food preparation and service, and office and admin support.

One possible explanation is that melatonin - a hormone produced at night - is suppressed in those working night shifts, having knock-on effects on oestrogen regulation in the body and protection against DNA damage.

The researchers pointed out the findings were consistent with, and of a similar magnitude to, those found for breast cancer although they did not see a cumulative effect.

Study leader Dr Parveen Bhatti, from the Fred Hutchinson Cancer Research Center in Seattle, said more detailed work was needed to tease out the risk factors involved.

"There are a lot of details about shift work that we weren't able to capture - things like permanent or rotating shifts.

"And we need to get more information on chronotype, that is whether you are a morning or evening person, and incorporate that into future studies."

Prof Paul Pharoah, from the University of Cambridge, said the fact the risk did not increase with increasing amounts of night shifts suggests the link seen may not be causal.

"Further work is required, but night shift work and the associated changes in sleep patterns and hormones is incredibly complex and studies that will generate robust results are exceptionally hard to do," he said.

"I'd be very surprised if this reported association were confirmed in the next 10 years."

Prof Valerie Beral, of the University of Oxford, added there could be a number of factors at work.

"One important one is that women who do shift work have fewer children - the pattern is very marked, and it matters to ovarian cancer even more than breast cancer."