

# Hair dye and smoking linked to progressive liver disease

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Hair dye and smoking both increase the risk of progressive liver disease, suggests research involving around 5000 people published in the journal *Gut*.

Primary biliary cirrhosis (PBC), which is an early form of [liver cirrhosis](#), is a long term progressive autoimmune disease, in which environmental factors are thought to play a part.

It causes the liver's plumbing system of bile ducts to become inflamed, scarred, and blocked, leading to extensive tissue damage and irreversible, and ultimately fatal, liver cirrhosis.

The authors base their findings on two series of patients, one of which included 318 out of 381 new cases of PBC arising between 1997 and 2003 in the North East of England. The other series included 2258 out of 3217 members of the United Kingdom PBC Foundation, a national support group for people with the condition.

Finally, 2438 out of 3933 people randomly selected from the electoral roll, and matched for age and sex, were used as a comparison group.

All three groups were sent detailed questionnaires on potential environmental and [genetic risk factors](#) associated with PBC.

As expected, [autoimmune diseases](#), such as [rheumatoid arthritis](#), thyroid and coeliac diseases were all more common among those with PBC. And

those with a family history of autoimmune disease were more likely to have PBC.

The skin condition psoriasis, urinary infections, and shingles also significantly increased the likelihood of a PBC diagnosis.

Compared to those selected from the electoral roll, both series of patients were 63% more likely to have smoked at some point in their lives, and to have started [smoking](#) before their diagnosis.

But patients with PBC were less likely to drink alcohol regularly, although this finding was not statistically significant. Previous research has indicated that alcohol is very unlikely to be a causative factor in PBC.

Less than 1% of male respondents used hair dye, whereas half of all the women surveyed did. When this was investigated among women only, those in the PBC support group were 37% more likely to develop PBC than women in the comparison group.

Respondents were not asked how often they dyed their hair, and it is not clear which component of hair dye might be responsible for this finding, say the authors.

But previous research has indicated an association between PBC and chemicals found in cosmetics, particularly octynoic acid, which is used in hair dye and nail polish, they add.

Provided by British Medical Journal

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