

# Second-hand smoke linked to cognitive impairment

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The research, published today in the *British Medical Journal*, highlighted a 44% increase in risk of cognitive impairment when exposed to high levels of second-hand smoke.

Previous studies identified active smoking as a risk factor for cognitive impairment and dementia. However, this is the first large-scale study to conclude that second-hand smoke exposure could lead to dementia and other neurological problems in adults. (Previous findings suggested that second-hand smoke exposure could impair cognitive development in children and adolescents.)

The research, led by Dr Llewellyn, used saliva samples from nearly 5000 non-smoking adults over the age of 50. By measuring levels of cotinine (a by-product of nicotine) in their saliva and taking a detailed smoking history, the researchers were able to assess levels of exposure to second-hand smoke.

A range of neuropsychological tests were then used to assess aspects of brain function such as verbal memory (recalling words immediately and after a delay), numerical calculations, time orientation, and verbal fluency (naming as many animals as possible in one minute). These results were added together to provide a global score for cognitive function, and those whose scores were in the lowest 10 per cent were subsequently identified as suffering from cognitive impairment.

From their results they concluded that exposure to second-hand smoke

may be linked to an increased chance of developing cognitive impairment, including dementia. The authors proposed a number of possible explanations for why exposure to second-hand smoke may increase the odds of dementia, including an increased risk of heart disease and stroke which are known to increase the risk of cognitive impairment and dementia.

Dr Llewellyn commented on the research, "We have conducted the first study to examine the association between second-hand smoke exposure and cognitive impairment in elderly non-smokers.

"Our results suggest that inhaling other people's smoke may damage the brain, impair cognitive functions such as memory, and make dementia more likely. Given that passive smoking is also linked to other serious health problems such as heart disease and stroke, smokers should avoid lighting up near non-smokers. Our findings also support calls to ban smoking in public places."

Source: University of Cambridge

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