# Scented candles under scrutiny as studies link indoor use to air pollution and cognitive effects



Scented candles have emerged as a popular indulgence in many households, providing not just a pleasant aroma but also an element of relaxation and self-care. The UK market for these products has seen significant growth, with consumers spending around £418 million on scented candles between 2021 and 2022, according to Kantar data. Looking ahead, global projections estimate that the market could expand from nearly $4 billion to $6.1 billion (£4 billion) over the next decade.

The appeal of scented candles lies in their ability to transform environments, frequently designed to replicate nostalgic or unique experiences, such as the scent of a vintage bookshop or a fresh bakery. However, alongside their luxury status, there are growing concerns regarding the health implications of burning candles indoors, particularly related to indoor air quality.

Experts are increasingly focusing on this issue, given that individuals in developed countries spend up to 90% of their time indoors. Everyday activities, including cooking and the use of candles, can generate particulates and pollutants, which the World Health Organisation (WHO) has linked to severe health risks, including heart disease and lung cancer. According to WHO estimates, household air pollution contributes to over 3 million deaths annually.

Research has provided some alarming insights into the potential dangers of indoor candle use. A study conducted in 2017 at Copenhagen University indicated that particles emitted from burning candles could cause more damage than the same exposure to diesel exhaust fumes. Another study revealed that candle burning was responsible for approximately 60% of exposure to ultrafine particles known to exacerbate respiratory conditions.

Professor Christian Pfrang, chair of atmospheric sciences at the University of Birmingham, emphasises the need for awareness regarding what burning candles releases into the indoor environment. He summarises that candles effectively act as small combustion sources that produce nitrogen oxides, carbon dioxide, and carbon monoxide, with incomplete combustion heightening these emissions. However, he notes that under typical conditions, the emissions from a single candle are unlikely to surpass WHO guidelines for indoor pollutants.

Further complicating matters, the introduction of fragrances into candles adds more volatile organic compounds (VOCs) to the air. These VOCs can react with combustion products in harmful ways, resulting in toxic compounds like formaldehyde and benzene being released during burning. Pfrang highlights acrolein and benzo[a]pyrene as particularly concerning due to their associated health risks.

Recent studies from the University of Birmingham and the University of Manchester have explored the cognitive effects of burning candles, revealing that exposure for just one hour can impair cognitive functions such as attention and emotional perception.

For those who find the allure of scented candles irresistible, experts suggest several precautions to mitigate potential health risks. Professor Pfrang advocates for proper ventilation, advising homeowners to ensure airflow to help disperse indoor pollutants. This can be achieved by opening multiple windows to create a draft.

Choosing the right type of candle is also crucial. Gail Race, an interior designer with experience in home fragrances, notes that higher-quality candles typically utilise cleaner burning materials, such as beeswax or coconut wax, and tend to avoid paraffin, which releases harmful chemicals. Furthermore, attention should be paid to the candle wick; cotton and wooden wicks are preferred as safer options since lead-core wicks, once common, were banned in 2003 due to health concerns.

Experts also highlight the importance of responsible candle burning, advising against using multiple candles in poorly ventilated spaces or lighting them for extended periods in confined areas such as bedrooms or bathrooms. Notably, the act of extinguishing a candle can produce a brief surge of particles, making the use of a candle snuffer a recommended practice.

In summary, while scented candles continue to be a popular luxury item fostering relaxation and a pleasant atmosphere, understanding their potential health risks is essential. By taking steps to ensure good ventilation and choosing higher-quality products, consumers can still enjoy their benefits with reduced concern over indoor air quality pollutants.

Source: [Noah Wire Services](https://www.noahwire.com)

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