Is a Real Christmas Tree *Really* Worth it?

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What?

Around eight million trees are cut down and disposed of in the UK during the festive period annually, as not all of them are recycled or reused[1]. This begs the question: other than an aura of festive cheer, are there any other benefits or costs to the time-honoured tradition of bringing evergreen trees into our homes every year for Christmas?

Nature and wellbeing

Some **NHS practices** are trialing **'green social prescribing'**[3] and recommendations to **bring nature into the home for wellbeing**[4]. However, while the presence of a Christmas tree in the home may correlate with the prevalence of festive joy, it is unclear to what extent confounding factors such as arboreal tinsel and sub-arboreal gifts influence this outcome.

Firs, spruces, and pines can also release and affect the composition of **airborne biochemicals and particles**, some which could influence human health[2].

However, it is difficult to assess how good a Christmas tree is as a **method of biochemical delivery**.

Terpenes are released from evergreen trees, and some have shown anti-tumourigenic effects in human cancer cell lines[5,6].

In human chondrocytes, α-pinene induced an anti-inflammatory and chondroprotective effect[7].

In a mouse model, α-pinene reduced sleep latency and enhanced non-rapid eye movement sleep duration by binding to $GABA_A$-benzodiazepine receptors[8].

Prior to the introduction of a conifer tree, there were 800 mould spores per cubic metre of air indoors. After 2 weeks with a tree levels reached 5,000 mould spores per cubic metre.[10]

Allergies and irritants

Studies assessing the impact of live Christmas trees in the home have suggested that pollen and mould stuck to trees, which accumulate from the natural environment, can act as **irritants to sensitive skin and a danger to people who have relevant allergies.**[11] Furthermore, dust mites, which gather on **artificial Christmas trees, can also trigger allergic reactions.**[12]

Author Comments:

There is **no substantive evidence that Christmas trees in the home provide any physiological health benefits**. A randomised controlled study would be necessary to rigorously assess the association between Christmas tree presence and health & wellbeing. Live trees could be compared to artificial ones, as well as to a non-tree control (if willing subjects could be recruited).

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