

More evidence essential oils 'make male breasts develop'

A suspected link between abnormal breast growth in young boys and the use of lavender and tea tree oils has been given new weight, after a study found eight chemicals contained in the oils interfere with hormones.

Gynaecomastia is rare, and there is often no obvious cause.

But there have been a number of **cases** linked to use of these essential oils.

The American study found that key chemicals in the oils boost oestrogen and inhibit testosterone. Not everyone will have the same reaction to an essential oil.

The plant-derived oils are found in a number of products such as soaps, lotions, shampoos and hair-styling products. They're also popular as alternative cleaning products and medical treatments.

Lead researcher J. Tyler Ramsey from the National Institute of Environmental Health Sciences (NIEHS), in North Carolina, suggested caution when using the oils.

"Our society deems essential oils as safe. However, they possess a diverse amount of chemicals and should be used with caution because some of these chemicals are potential endocrine disruptors."

A growing number of reported cases of male gynaecomastia have coincided with topical exposure to the oils.

After they stopped using the products, the symptoms subsided.

A previous study by Dr Kenneth Korach - who was also co-investigator for this study - found that lavender and tea tree oil had properties that competed with or hindered the hormones that control male characteristics, which could affect puberty and growth.

The new study looked at eight key chemicals from the hundreds that make up the oils. Four of the tested chemicals appear in both oils and the others were in either oil.

They were tested on human cancer cells in the laboratory to measure the changes.

The researchers found all eight demonstrated varying degrees of promoting oestrogen and/or inhibiting testosterone properties.

"Lavender oil and tea tree oil pose potential environmental health concerns and should be investigated further," said Mr Ramsey.

Many of the chemicals tested appear in at least 65 other essential oils, which is of concern, he added.

- Essential oil guidelines
- Precautions should be observed when using essential oils since they are highly concentrated

- Do not apply undiluted essential oils directly to the skin
- Never use undiluted oils on children under the age of three
- If you are pregnant you should seek the advice of your doctor, midwife before using essential oils
- When used appropriately, essential oils and aromatherapy products are safe for all the family

Source: Aromatherapy Trade Council

Prof Ieuan Hughes, emeritus professor of paediatrics at the University of Cambridge said the findings "have confirmed why an individual using such oils containing these chemicals may develop breast tissue".

"The anti-male hormone effects are rather unexpected and it is not possible to comment further without the data.

"Of course, not everyone exposing themselves to such oils has adverse effects, so it is possible there are particular individuals who may be more sensitive to the effects of the chemicals, or perhaps are using the products in excess.

He said attention should be given to better regulation of these products.

Prof Hughes added: "Clearly, the longer-term effects of such exposure are unknown."

Dr Rod Mitchell, honorary consultant paediatric endocrinologist at the Queens Medical Research Institute in Edinburgh said the study "is important in establishing a possible mechanism for the suggested link between gynaecomastia and exposure to lavender and tea tree oils".

"However, there are important factors that must be taken into account when interpreting these results. The tests are conducted in cancer cells, which may not represent the situation in normal breast tissue.

"The concentration (dose) to which the cells are exposed may not be equivalent to exposure in humans. There is a complex relationship between oestrogen, testosterone and other hormones in the body, that cannot be replicated in these experiments."

He called for further larger studies.

"At present, there is insufficient evidence to support the concept that exposure to lavender and tea tree oil containing products cause gynaecomastia in children, and further epidemiological and experimental studies are required."

The study results will be presented on 19 March at the Endocrine Society's annual meeting in Chicago.