

FAKE AND EXAGGERATED RESEARCH

By Martin Watt

Fake news has been talked about a lot recently so I thought it opportune to let my readers know that it is not just in the media and politics. The aromatherapy community and aromatherapy suppliers have always been responsible for spreading invented health claims. The problem has grown a lot in recent years with people coming into the trade, setting up blogs, and then trying to justify their health claims by using scientific references. As I still get people asking me about claims that they have found for certain essential oils, I thought it would be good to give some guidance on what to be on the lookout for. Many of these items are in other files, but here I will try to bring together as much as I can.

Scientific references used to justify claims such as “anti cancer”, “antiviral”, “anti aging”.

It has become fashionable for many sites and blogs to add references they find on the PubMed website ncbi.nlm.nih.gov/PubMed. That site mainly contains **abstracts** of scientific research papers. If the whole paper is obtained, vital pieces of information can be found which are not in the abstract. Also, having contacted PubMed in the past, I was informed that they do not review the validity of what they publish.

On the site below you can find articles about fake and inadequate scientific research: <http://retractionwatch.com/2015/12/18/in-more-faked-peer-review-news-10-papers-pulled-by-hindawi> References to these articles are now being used by suppliers from health foods to essential oils as a method to promote sales. Rarely do suppliers check the whole research document to ascertain if the research is valid for their product or even if it is genuine.

Examples of what to look for with research claims:

(a) Is the article of any relevance to aromatherapy? Is the research distinguishing between the use of an herbal extract or an essential oil? Never forget that probably 80 percent of therapeutic claims found in aromatherapy books are taken from the traditional use of a herbal extract, not the essential oil. Reasons for that are explained in other files on this site.

(b) Is research on **antiviral activity** all done in lab petri dishes? Research on antiviral activity of essential oils in humans is extremely weak or none existent despite the numerous claims on aromatherapy blogs. For example: I have often found the methods used by labs lacking. This is because solvents used to dissolve the essential oils can themselves kill virus infected cells. In addition, the fact that an essential oil may kill cells in vitro cannot be assumed to give credibility to its use as a therapy in humans. The volume required to kill infected cells in the body may be so high as to be toxic or damaging. Also, it has to be considered how the oil can be administered to have an effect? Sometimes internal use is advocated but then we must consider the widespread use of essential oils that are adulterated. See other articles on this site on '**internal use**'.

(c) Has the tested essential oil been produced via laboratory stills? These will often produce a chemical composition different from the oils produced and sold commercially. If so the research may not hold good for the oils purchased by the public.

(d) Does the research paper provide an analysis of the oil they used and is that analysis done in-house or provided by the outside supplier? This information is critical to knowing if the research results can be extrapolated to oils purchased from various suppliers.

(e) Claims on **anti cancer activity**. See the file on Frankincense for more on that. It is not uncommon to find that scientists conducting such tests have no or a weak knowledge of the different types of oil/s they are testing. They can make huge errors over the chemical components that they **think** are responsible for the actions they observe.

(f) **Anti aging claims:** That is beauty therapy hype and lies. Certainly the skin can be kept supple by using cosmetic creams and other formulations but any essential oils are just going to give a nice fragrance. Some essential oils can be wonderful for healing skin damage and infections but that is not an anti aging action.

(g) Are the researchers **a group of students doing the research in order to get a degree?** In such cases you will often find that their supervising professors know nothing about the subject being investigated. The students will frequently take references from sites where the references may have little to do with the research they are conducting. I have even seen many papers with the references to claims made in popular aromatherapy books. Another thing that I have found is modern students can be very lazy over their literature research, if it is not on the internet they presume that their research has not been done before. That can lead to them claiming their work is "new" when it has been known about for 50 or more years. Many of the essential oils and fragrance trades as well as cosmetics and perfumery have trade journals going back to the early 1900s. Those old journals can contain invaluable research on essential oils, but you need to get the paper copies. Too much hard work for most University students it seems, they might have to put their smart phones away for a few hours - tragedy!!

(h) Another common problem - even when the research is genuine - is that researchers can make huge guesses on therapeutic activity based on particular chemicals in an oil. The better researchers will extract the chemical from a range of essential oils in order to ascertain its activity. However, that does not mean that the use of the whole essential oils will have a similar effect. Most oils contain hundreds of natural chemicals which all contribute to their activity. It is known that some of these chemicals can be active at a few parts per billion, therefore to assume that because an essential oil contains a large volume of a given chemical, that the action of the whole oil will be similar to the chemical, is fundamentally bad science.

(I) Look to see if a company has sponsored any research referred to. For example, the research below had the name of Gary Young of Young Living in the list of authors. The research was packed with errors and yet it was published in one of these journals where you pay for publication. <http://www.biomedcentral.com/1472-6882/11/129>

Multi level aromatherapy companies are notorious for providing customers and their distributors with fake or inapplicable research references. Therefore, if you see such a company or one of their scientific advisors named in the paper, be cautious about its validity.

Lastly, a major problem with the publishers of research articles is that they rarely publish criticisms of the quality of the research. That has caused many articles which are fundamentally flawed to be floating around on the internet forever. A good example is the atrocious piece of research about lavender and tea tree oil causing gynecomastia in boys. Despite that report being taken apart by real experts, the original is still floating around and has been referenced many times without the articles criticising it being mentioned.

So fake and poor quality research references beware.

Also, beware of 'the latest news' articles on health food type web sites and blogs. They are notorious for corrupting scientific research in order to promote sales of supplements some of which may contain essential oils.

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