Essential oils – a role in the fight against MRSA?

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Aromatherapy – the therapeutic use of essential oils (highly concentrated natural plant products) – has been used traditionally to help combat many disorders, ranging from mild skin complaints (e.g. insect bites, mild burns) to more complex conditions such hypertension as stress. Evidence for the efficacy of essential oils in these conditions has, however, tended to be largely anecdotal, but medical research is now beginning to show that some essential oils may indeed have properties that could be useful medically. Recent studies suggest that one area in which essential oils could possibly have a role is in the fight against MRSA (methicillin-resistant *Staphylococcus aureus*).

Staphylococcus aureus (*S. aureus*) is a bacterium that can be found as part of the normal flora of bacteria on some peoples' skin and in their noses, where it seems to cause no major problems. However, if it gets inside the body, for instance under the skin or into the lungs, it can cause infections. Such infections are usually treated using antibiotics. MRSA, however, is a type of *S. aureus* that has become resistant to antibiotics, and can therefore give rise to infections that are much harder to treat.

MRSA appears to be spread mainly through direct, skin-to-skin contact, largely by healthcare workers failing to clean their hands effectively before and after contact with an MRSA-positive patient and/or the contaminated environment. Therefore, one of the priorities for preventing the spread of the organism is improved hygiene. One study has shown that something as simple as hand-washing with an alcohol-based disinfectant among carers can effectively reduce the spread of MRSA.[1]

Those infected with MRSA can also take hygiene precautions to reduce their risk of spreading the infection, such as daily baths or showers with an antiseptic body wash, use of a disinfectant dusting powder after bathing and drying, and washing hair twice weekly with an antiseptic shampoo. As MRSA can live in the nose, nasal ointments containing the antibiotic, mupirocin, are also available. However, some strains of MRSA now appear to have developed resistance to this agent.

Despite improvements in hygiene, however, MRSA continues to pose a threat to patients in hospital and in the community (particularly those who are already ill, the elderly and those in long-term care), and new ways are constantly being sought to reduce the spread of MRSA.

A number of recent studies appear to suggest that certain essential oils may be effective in preventing the spread of the organism. In a recent report, researchers at the University of Manchester found that the use of three essential oils killed MRSA rapidly and effectively in the laboratory.[2] The oils were also effective against other infectious agents commonly found in hospitals, including *E. coli* (*Escherichia coli*). The researchers suggest that the oils could be blended into soaps, handwashes and shampoos, which could be used in hospital hygiene regimens to prevent the spread of such infections. Funding for further research is now being sought.

Although the essential oils identified in this study[2] have not yet been named, other research has been published which identifies a number of essential oils that may be effective against MRSA.

Tea tree essential oil, in particular, appears a promising candidate, either alone or in combination with other essential oils. Two controlled studies have shown that use of tea tree oil in nasal ointments, bodywashes and creams was as effective as routine care in the elimination of MRSA.[3,4] In another study, combinations of patchouli, tea tree, geranium, lavender essential oils and grapefruit seed extract were found to be effective against MRSA,[5] and the same group of researchers have also developed a blend of essential oils, which includes tea tree oil, encased in a shell of dead yeast cells, which attacks and kills MRSA. Clinical trials of this new treatment, which can be included in wound dressings, are about to start on 40 burns patients who have been diagnosed as having MRSA on their skin.[6]

Lavender is another essential oil that has been shown to have efficacy against MRSA.[7] Activity was also shown against another bacterium that is resistant to antibiotics – vancomycin-resistant *Enterococcus faecium*.[7]

Bacterial resistance to antibiotics is a growing medical problem, fuelled by years of overuse and misuse of these agents by healthcare providers. Alternative interventions with proven efficacy that would enable the use of antibiotics to be reduced can only be regarded positively. These studies suggesting a role for

essential oils in the fight against MRSA are still under investigation, but results to date are promising. Further developments are eagerly awaited.

For more information on essential oils, visit www.aromatherapy-stress-relief.co.uk

References

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