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Case report

Is it time to conduct a clinical trial on lavender oil inhalation for treating anxiety and insomnia among elderly patients?

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Abstract

Background: Studies show that older people often suffer from anxiety disorders in general and from generalized anxiety disorder in particular. In turn, such disorders could lead to additional distress, physical disabilities, and the increased risk of dying. First-line medications include selective serotonin reuptake inhibitors and serotonin norepinephrine reuptake inhibitors. However, while they may lead to positive improvement in levels of anxiety and acrophobia, they are not without serious physical and mental negative side effects.

Objectives: To examine the efficacy of lavender oil inhalation for treating anxiety disorders among the elderly.

Methods: Case studies were conducted on two elderly people suffering from anxiety disorders, using lavender oil inhalation or lavender capsules.

Results: The results showed that while both patients responded positively to the lavender treatment, the patient treated with lavender oil inhalation exhibited physical and medical improvements in a much faster manner than the patient who was treated with lavender capsules.

Conclusions: These results deem it fitting to consider the conducting of a scientific study on the efficacy of lavender oil inhalation among older people who suffer from such acute and even chronic anxiety.

Introduction

Unlike most anxiety disorders among elderly persons, which are mostly chronic and emerge earlier in life, the onset of both generalized anxiety disorder (GAD) and agoraphobia often occurs later in life [1]. One study estimates the rates of GAD among elderly people to be about 8% [2]. Epidemiological studies that assessed anxiety in later life show a large prevalence of all anxiety disorders among the elderly, ranging from 1.2% to 15 % (community samples). Anxiety disorders in the elderly are an often-unrecognized cause of distress, disability, and mortality risk. More recently, late-life GAD has been linked to an increased risk of strokes and additional cardiovascular events (following the controlling of other risk factors), and has also been linked with increased risk of conversion from mild cognitive impairment to Alzheimer's disease [3].

To date, selective serotonin reuptake inhibitors (SSRI) and serotonin norepinephrine reuptake inhibitors (SNRI) are the first-line medications for both short and long-term treatment. Two small randomized clinical trials (RCT) and one full scale RCT demonstrated the efficacy of SSRI in the acute treatment of older adults with anxiety disorders, predominantly GAD. In the latter study, which randomized 177 older adults with GAD, escitalopram was found to be superior to the placebo in the cumulative response (69% vs. 51 %) [4-6]. Benzodiazepines are still the most commonly used pharmacological treatment for geriatric anxiety, despite the association of these medications with falls and physical disability, as well as cognitive impairments and declines [7-10]. A recent survey, conducted in Japan on 796 elderly with anxiety disorders,

showed a very high rate of use of benzodiazepine anxiolytics in the elderly (71.6 %). Compared with younger subjects (<50 years old), older people also more often receive benzodiazepines without antidepressant medication [11].

Pregabalin has been proven efficacious both in acute treatment and in the prevention of a midlife GAD relapse. Moreover, a large-scale study (N=273) on the elderly found pregabalin to be efficacious and well-tolerated in geriatric GAD, although discontinuation symptoms following abrupt withdrawal have been reported [12]. Antipsychotic drugs have been used in the treatment of late-life anxiety, mostly off-label, and mainly relating to the use of quetiapine in GAD. Up until mid-2014, nine studies had used quetiapine (regular or extended release) for treating midlife GAD. The results showed efficacy and tolerability in both monotherapy and adjunctive treatment trials [13]. However, one study on late-life GAD, with a relatively large sample (N=450) and which demonstrated the efficacy of quetiapine XR monotherapy (50–300 mg/day), found the drug to have negative side effects, such as somnolence, dry mouth, dizziness, headaches, and nausea [14]. The use of atypical antipsychotics among the elderly raises concerns regarding associated higher mortality compared to placebos administered to older patients with dementia. It remains unclear whether these risks apply to non-demented elderly persons [15].

Lavender flowers, which contain linalool, linalyl acetate, ocimene, camphor and flavonoid [16], have been shown to have antidepressant, sedative, local anesthetic, antioxidant, dose-dependent antiseizure, hypnotic, and anti-anxiety effects [17,18]. In oral use, linalool and linalyl acetate contents of lavender flowers have shown anti-anxiety effects [19]. This plant has been used in different studies without any reported side effects [20,21], yet in some cases, nausea, vomiting [22,23], and dermatitis [24] have been observed with topical use. The World Health Organization (WHO) has confirmed that the oral use of lavender is safe [25]. Moreover, the Farshbaf-Khalil study showed positive effects of lavender on anxiety states following eight weeks of treatment [26].

This study presents the case studies of two elderly patients, both of whom benefited from lavender oil, achieving a significant degree of relaxation.

Case Reports

The first case report relates to a 77-year-old woman with hypertension and lower back pain. Having suffered from several repeated episodes of vertigo and dizziness, this participant began avoiding leaving the safety of her home, which in turn negatively affected her mood. The medical diagnosis was anxiety, for which a lavender capsule, Lasea 80 mg a-day, was prescribed. A month later, some improvements could be seen; after 6 weeks of taking the Lasea, the patient's mood and behavior had significantly improved, as she once again went out of her home and even went swimming, with no need of anti-depressant medication. At her given age, benzodiazepines could have increased her risk of falling, which is why it is preferable not to prescribe this drug among the elderly population [8].

The second case relates to a 78-year-old man with diabetes mellitus, suffering from its known complications of diabetic retinopathy, ischemic heart disease, heart failure, hypertension, peripheral vascular disease and s/p diabetic nephropathy (as the patient underwent a kidney transplantation 16 years ago). This participant was being treated with a number of different medications, including prograf, cellcept-mycophenylate mofetyl anti-rejection, short and long acting insulins, lipitor-atorvastatin, cardiloc-bisoprolol, aspirin, and twice-weekly trimethoprim sulfamethoxazole. He was cognitively preserved and independent in terms of activities of daily living (ADL) until he was diagnosed with an influenza infection. A few days after the diagnosis, the patient began complaining of insomnia and anxiety, as well respiratory distress for which he was unsuccessfully treated with steroids (orally and by inhalation). As benzodiazepines are known to have unfavourable respiratory effects among the elderly, as the increased risk of somnolence and falls, a trial of lavender in concentrated oil for inhalation was initiated. After receiving two to three puffs of inhalation, the patient responded positively: he fell asleep at night and found himself relaxing. No side effects were reported or noticed.

Discussion

The two elderly people presented in this report were similar in their diagnosis of anxiety, avoidance of benzodiazepines therapy (and potential negative side effects), and positive response to lavender. However, they differed in the therapeutic administration mode and response: The female subject received a daily lavender capsule, and the response took more than a month. The male subject, on the other hand, was treated with lavender oil inhalation and his response was immediate. As anxiety and insomnia are prevalent problems in older individuals, it would seem appropriate to conduct a scientific study on the efficacy of lavender oil inhalation as a potential therapy for elderly people who suffer from such acute and possibly chronic conditions. We thereby suggest that the time has come to consider conducting an RCT study on the effects of lavender oil inhalation compared to lavender capsules as a therapeutic measure for older individuals suffering from anxiety and sleep disorders.

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