

Aromatherapy Effectively Reduces Behavioral Symptoms of Dementia

Staff and Residents at Wingate Assisted Living Benefit from Elequil Aromatabs®

Wanjiku DePina, C.D.P., Memory Care Director
Wingate Healthcare, The Inn at Silver Lake

Maria Shonyo, President
Vela Technologies, LLC

Key Benefits Achieved

This study conducted at The Inn at Silver Lake clearly showed how Elequil aromatabs helped improve quality of life for some residents exhibiting dementia-related behaviors such as sleeplessness and anxiety.

Customer Profile

**Wingate® Residences
at Silver Lake**



The Inn at Silver Lake, part of Wingate Healthcare®, and located in Kingston, MA, provides traditional Assisted Living as well as Memory Enhanced Assisted Living Neighborhoods.

Challenges

Behavioral expressions associated with dementia include sleeplessness, anxiety, agitation, and aggression. These behaviors, common in all types of care facilities, present enormous challenges to both staff and residents.

- **Sleeplessness** impacts the individual resident causing them to be irritable, wander the halls at night, fall asleep during daytime hours, have frequent falls, be more likely to experience sundowning, experience negative effects on memory, alertness and orientation, and be disruptive to other residents. Sleeplessness also increases staff workload during both nighttime and daytime hours.
- **Anxiety** is physically and emotionally taxing for the resident, their families, and staff, and frequently causes disruptive behavior which can also impact other residents. Anxiety can also result in falls, weight loss, and sleeplessness.
- **Agitation** is disruptive and can lead to physical aggression toward other residents and staff. Moreover, if staff is unable to identify the cause or trigger of the agitation and successfully intervene, the resident may need to be admitted to the hospital for appropriate care, further increasing anxiety.

“ Elequil aromatabs are easy to administer. Family members and non-licensed staff can easily apply an Elequil aromatab. It is also easier than giving pills for anxiety or agitation, which also have the potential for residents to spit them out or have an adverse reaction (stomach upset, diarrhea, nausea, drowsiness, falls, etc.). Also, due to the progressive nature of Alzheimer’s disease, many residents begin to have difficulties swallowing, making pills a very challenging option. With Elequil, you just stick them on the resident’s clothing and it is an individualized intervention. Individualized interventions are important to the state and necessary in a resident’s service plan. Elequil aromatabs are an effective individualized, person-centered, non-pharmacological approach for care of persons with dementia. ”

~ Wanjiku DePina, C.D.P, Memory Care Director,
Wingate Healthcare, The Inn at Silver Lake

- **Aggression** can be manifested verbally or physically. Aggressive residents can be combative with staff and show aggression toward other residents. Like agitated residents, aggressive residents may need to be admitted to the hospital if staff is unable to find a successful behavioral intervention.

Any of these behaviors can result in decreased participation in activities and social isolation because other residents avoid them. This in turn can result in a decrease in cognitive functioning. Exhaustion, reduced alertness and orientation, and depression may result from these behaviors, and the risk of falls greatly increases.

These behaviors are particularly challenging for staff to manage, increasing stress levels and potentially leading to burnout and reduced attendance. This can result in staff shortages and/or overtime pay, not to mention increased documentation, increased time to meet with family members to discuss the situation and alternative solutions, and lost revenue if the patient cannot remain in the facility. Furthermore, when residents exhibit these behaviors, it can reflect poorly on the facility and ultimately cause financial repercussions if the facility’s reputation is affected.

Wingate Study Demonstrates Effectiveness of Elequil Aromatabs

Objective

The Memory Care Director at The Inn at Silver Lake was looking for an additional non-pharmacological tool to manage resident behaviors of sleeplessness, anxiety/restlessness, agitation, and aggression. She selected an aromatherapy product designed for the clinical setting called Elequil aromatabs® (Beekley Medical®, Bristol, CT). Specifically, the Lavender-Sandalwood blend was chosen for the study.

Study Methods and Criteria

The Wingate internal study was conducted December 2016 – January 2017. Twelve residents from the Pickford Memory Care Neighborhoods were chosen based on the excessive frequency of their behavioral expressions:

- 5 residents were evaluated for sleeplessness
- 4 residents were evaluated for anxiety/restlessness
- 1 resident was evaluated for anxiety/aggression
- 1 resident was evaluated for sleeplessness and anxiety/restlessness
- 1 resident was evaluated for sleeplessness and anxiety/aggression

Baseline data on the frequency of behavioral expressions was obtained December 2-18, 2016. Elequil® was not used on the study subjects during this time.

From December 19, 2016 – January 7, 2017, Elequil was applied to each resident in the study. The time of application varied depending on the resident’s individual needs. In all cases, Elequil remained on each resident for 24 hours unless inadvertently removed by another patient or it came off for other unforeseen reasons.

To measure sleeplessness, the Certified Nursing Assistant (CNA) staff documented the number of times the resident was awake during hourly room checks conducted between 7 pm and 6 am.

To measure anxiety/restlessness, agitation, and aggression, the staff documented the number of episodes during a 24-hour period.

to get me?”; and have a better night’s sleep because she was not getting up as often during the night.”²

“The resident slept better with Elequil aromatabs.”

“The resident’s overall levels of anxiety have decreased with Elequil aromatabs, especially on 7 am – 3 pm shift and during meals. The resident is not as anxious as she used to be.”

“The resident is much less anxious about her deceased spouse.”

“The frequency of the resident’s behavioral expressions (hitting, swearing, and pacing) was reduced with Elequil aromatabs.”

Study Results

Staff Comments

Staff comments following the study consistently suggested a decrease in negative behavioral expressions and a marked improvement in quality of life:

“The resident’s mood and ability to focus on exercises during Balance and Falls Prevention Class were better with Elequil aromatabs.”¹

“Once the resident was calm, she was able to focus on eating a meal without getting up from the table multiple times, which upsets the other residents at the table and impacts their quality of life; enjoy a social activity like happy hour without repeatedly asking “when is my family coming

Resident Story #1 – Sleeplessness

Prior to the study: The resident never had a full night’s rest. When she was awake during the night she was pacing the hallways with her brows furrowed and a look of distress on her face. She was exhausted during the day and fell asleep in the middle of activities and meals. Her sleeplessness was upsetting to other residents and they worried about her constantly. Her exhaustion caused an unsteady gait which made her a fall risk as well.

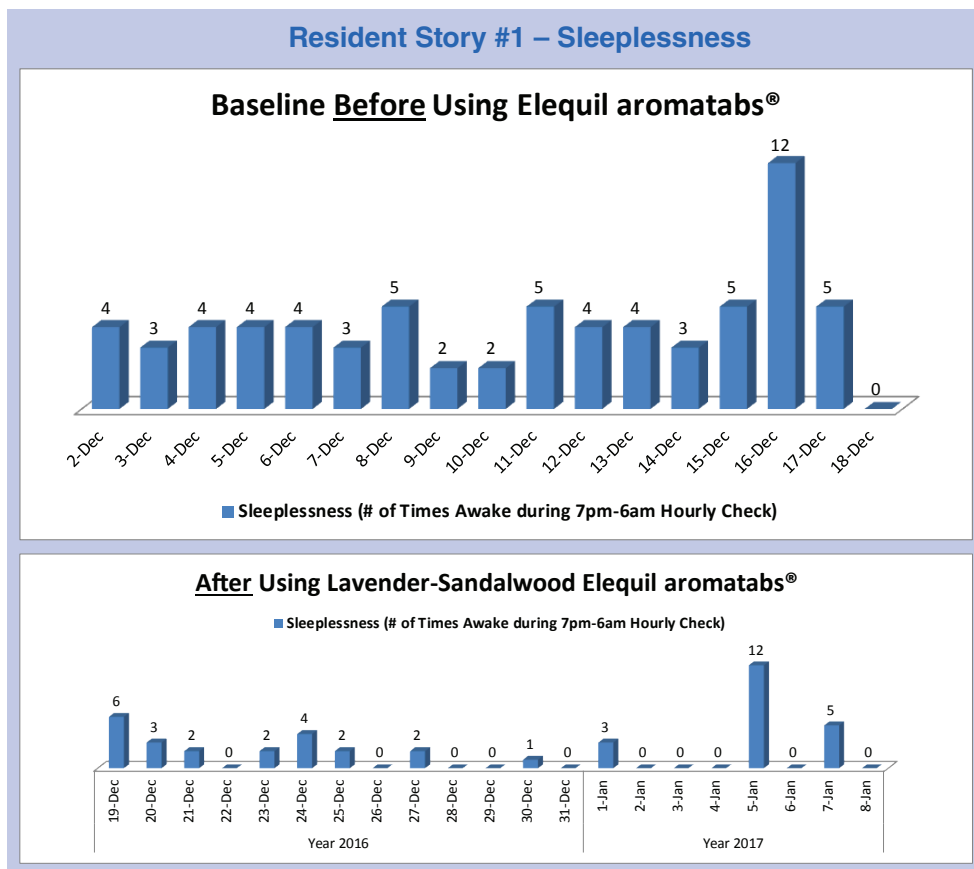
During the study: Quality of life during the study, when Elequil was being applied daily, improved. There was a gradual improvement in the number of hours that she was asleep during the night. During the times she was up, she was pacing pleasantly without a distressed look on her face.

After the study, with continued use of Elequil: Quality of life after the study, with continued use of Elequil, was also improved. The resident continued to experience more restful nights and improved alertness during the day for activities. She was calmer with a smile on her face rather than furrowed brows.

After the study, with use of Elequil reduced to every other day: When use of Elequil was reduced to every other day, the resident began to experience increased sleeplessness on the nights when Elequil was not used.

Resident Story #2 – Anxiety

Prior to the study: Quality of life before the study was poor. The resident was extremely anxious, repeated the same things over and over, was unable to sit still or sleep, and was unable to participate in or enjoy meaningful activities.



During the study: The resident's episodes of anxiety remarkably decreased to almost none. She attended every activity including trips out and family visits, and became less stressful. Although she still woke up at night she was not anxious while awake and was easily redirected back to bed.

After the study, with continued use of Elequil: After the study her family continued with Elequil and the resident continued to enjoy her life in assisted living, making friends and participating in activities. She was a pleasure to be around. Other residents enjoyed her company and she was always smiling.

After the study, with use of Elequil discontinued: After discontinued use of Elequil, the resident's quality of life decreased with respect to anxiety, and she searched for her family after lunch and dinner each day.

Resident Story #3 – Anxiety

Prior to study: The resident was anxious and attention-seeking most of the day. She frequently stated she couldn't eat and subsequently was losing weight. She was disruptive and difficult for staff and other residents to be around. This behavior caused isolation and loneliness. The resident also experienced frequent bouts of weepiness. Her family expressed their unhappiness about her quality of life.

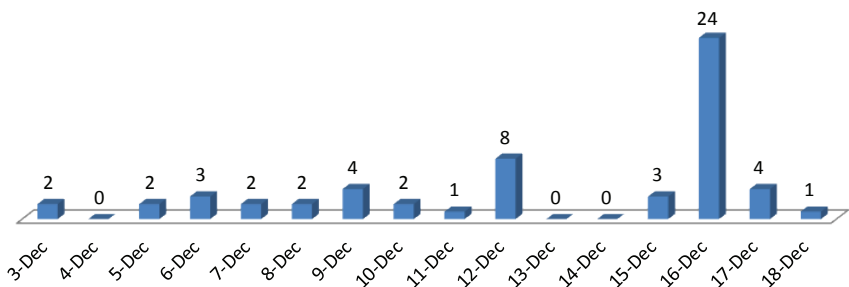
During the study: The resident's mealtimes were actually enjoyed. She was calm and pleasant and made conversation with the other residents at the table. She experienced increased participation in activities after dinner and she had an overall calmer demeanor.

After the study, with use of Elequil discontinued: The resident did not continue with Elequil after the study and her anxiety reverted back to its previous level before the study. Her quality of life started to decline, and her family began discussing pharmacological interventions to manage her anxiety which also increased her risk of falls.

Resident Story #2 – Anxiety

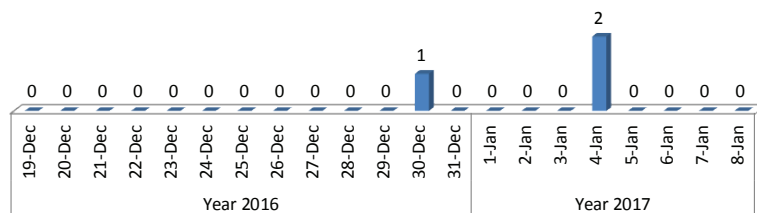
Baseline Before using Elequil aromatabs®

■ Anxiety/Restlessness (# of Episodes per 24 Hour Period)



After using Lavender-Sandalwood Elequil aromatabs®

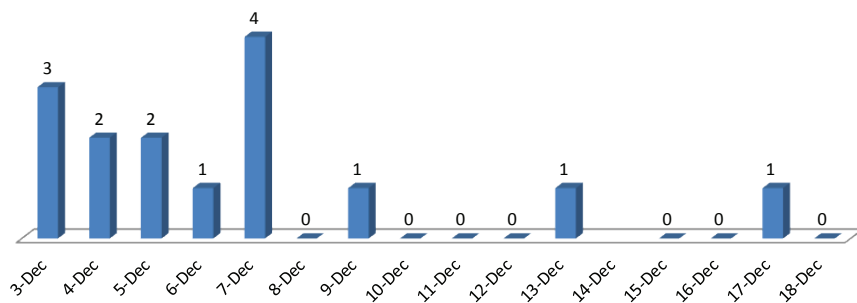
■ Anxiety/Restlessness (# of Episodes per 24 Hour Period)



Resident Story #3 – Anxiety

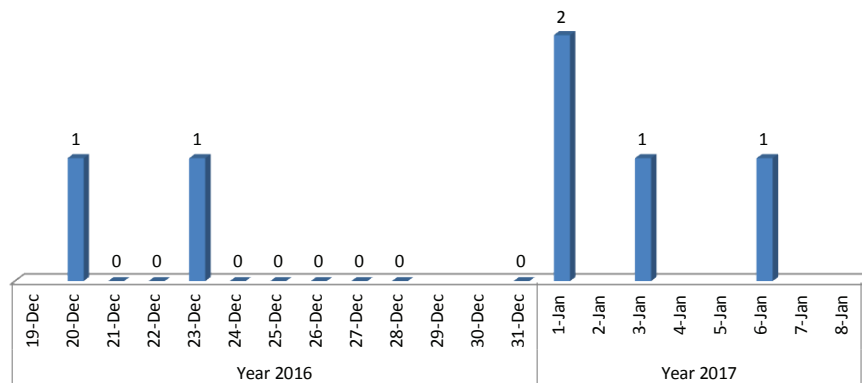
Baseline Before using Elequil aromatabs®

■ Anxiety/Restlessness (# of Episodes per 24 Hour Period)



After using Lavender-Sandalwood Elequil aromatabs®

■ Anxiety/Restlessness (# of Episodes per 24 Hour Period)



Conclusions

This study conducted at The Inn at Silver Lake clearly showed how Elequil aromatabs helped improve quality of life for some residents exhibiting dementia-related behaviors such as sleeplessness and anxiety. Furthermore, these residents noticeably reverted to prior behaviors when the use of Elequil was discontinued. While this particular study was conducted at an assisted living facility, the challenges surrounding residents with these behaviors, and the resultant impact on other residents, family, and staff, apply similarly to all types of senior living including skilled nursing and long term care facilities.

Elequil aromatabs, an individualized, person-centered, non-pharmacologic aromatherapy product, was shown to be an easy, effective means of delivering clinical aromatherapy in these settings. Other larger studies have shown aromatherapy to be an effective non-pharmacological solution:

- Aromatherapy can be an effective tool to reduce pain, depression, anxiety, and stress levels among community-dwelling older adults.³
- The use of diffused lavender twice daily has shown to reduce the frequency of agitation in elderly patients with dementia, especially in the 70–85 age cohort.⁴
- The results indicated an improvement of sleep quality of nursing home residents after the application of aromatherapy with lavender oil.⁵
- Lavender olfactory stimulation may reduce falls and agitation in elderly nursing home residents.⁶

In addition, Elequil supports initiatives such as CMS's National Partnership to Improve Dementia Care in Nursing Homes, whose larger mission is to enhance the use of non-pharmacologic approaches and person-centered dementia care practices.⁷ CMS has also established a national goal which involves a 15% reduction of antipsychotic medication use by the end of 2019 for long-stay residents in those homes with currently limited reduction rates.⁸

Falls

Impact on Quality of Life

These behavioral expressions undoubtedly impact quality of life. When a resident falls because of sleeplessness, anxiety, agitation, and/or aggression, and the behavior is not managed, more falls will likely occur. Frequent falls can result in major injury (e.g., head injuries, hip fractures) or even death. Falls can cause a resident to feel unsafe in their environment. Residents who fall must be checked on more frequently. In addition, more injuries result in more medical interventions (surgeries, antibiotics, and/or wound care)

Risks of Medications Commonly Used in Memory Care

Medications are commonly used in memory care units to control behavioral expressions. However, these medications come with associated risks, particularly the risk of falls.^{11, 12}

Medications commonly used for anxiety include Desyrel® (trazodone), Celexa® (citalopram), Zoloft® (sertraline), Ativan® (lorazepam), and Xanax® (alprazolam). These medications all cause drowsiness. Ativan and Xanax are more dangerous because they can also cause brain “fog” and increased confusion. Often, these medications can have the opposite effect and actually increase restlessness and anxiety.¹³

For agitation and aggression, the use of antipsychotics are most effective. However, these medications have the greatest risk and are usually used as a last resort because of their side effects (e.g., increased risk of falls, death due to injuries sustained from falls, drowsiness, difficulties swallowing, and a decline in physical function). These medications include Risperdal® (risperidone), Seroquel® (quetiapine fumarate), and Haldol® (haloperidol).¹⁴

Medications used for sleeplessness such as Ambien® (zolpidem tartrate), Lunesta® (eszopiclone), and others can be dangerous for the elderly, especially those with dementia, because they can cause vivid dreams, subsequently increasing the risk for falls. Desyrel is often prescribed for sleeplessness because it gives a sedative effect and causes drowsiness—again increasing the risk of falls.¹⁵

which can lead to loss of function necessitating braces, slings, casts, wheelchairs, or walkers. It's a vicious cycle that can cause the resident to rapidly spiral down, and result in the family questioning the care being provided for their loved one.

Economic Impact

In addition to the impact on resident health and quality of life, there is also an operational and economic impact from falls. There is the cost of additional staff/caregivers required to tend to the resident who had the fall as well as other residents who may be impacted, staff time spent on documenting and reporting falls internally and to outside agencies (CMS, state, or other), and so on. There may be lost revenue to the facility if the resident must be transferred to another facility or admitted to the hospital. And the direct healthcare cost of a fall is not insignificant: the CDC estimates the average hospital cost for a fall injury to be over \$30,000.⁹ Even worse, if the family believes the facility is responsible for the resident's decline or demise following repeated falls, litigation may occur.

New CMS Reporting Requirements

CMS recently released their Skilled Nursing Facility (SNF) Quality Reporting Program (QRP) Data on Nursing Home Compare. This mandate requires certain post-acute care providers, including SNFs, to report provider performance data on quality. One of the newly-added measures requires reporting of percentage of SNF patients who experience one or more falls with major injury during their stay.¹⁰

Endnotes

- ¹ Christopher LaChance, Physical Therapy Assistant (PTA), CAREtenders
- ² Wanjiku DePina, C.D.P, Memory Care Director, Wingate Healthcare, The Inn at Silver Lake.
- ³ Tang SK, Tse MY. Aromatherapy: does it help to relieve pain, depression, anxiety, and stress in community-dwelling older persons, *Biomed Res Int.* 2014; 2014:430195, accessed from <https://www.ncbi.nlm.nih.gov/pubmed/25114901> on November 1, 2018.
- ⁴ Robin Moorman Li, Brian Gilbert, Anna Orman, Petra Aldridge, Sue Leger-Krall, Clare Anderson, Juan Hincapie Castillo. Evaluating the effects of diffused lavender in an adult day care center for patients with dementia in an effort to decrease behavioral issues: a pilot study, *J Drug Assess.* 2017; 6(1): 1–5, accessed from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5327916/> on November 1, 2018.
- ⁵ Faydali S, Çetinkaya F. The Effect of Aromatherapy on Sleep Quality of Elderly People Residing in a Nursing Home, *Holist Nurs Pract.* 2018 Jan/Feb; 32(1):8–16, accessed from <https://www.ncbi.nlm.nih.gov/pubmed/29210873> on November 1, 2018.
- ⁶ Sakamoto Y, Ebihara S, Ebihara T, Tomita N, Toba K, Freeman S, Arai H, Kohzuki M. Fall prevention using olfactory stimulation with lavender odor in elderly nursing home residents: a randomized controlled trial, *J Am Geriatr Soc.* 2012 Jun;60(6), accessed from <https://www.ncbi.nlm.nih.gov/pubmed/22646853> on November 1, 2018.
- ⁷ Centers for Disease Control and Prevention (CDC), accessed from <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertification-GenInfo/National-Partnership-to-Improve-Dementia-Care-in-Nursing-Homes.html> on November 1, 2018.
- ⁸ Ibid.
- ⁹ CDC, Costs of Falls Among Older Adults, accessed from <https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html> on November 1, 2018.
- ¹⁰ CMS, Skilled Nursing Facility (SNF) Quality Reporting Program (QRP) Data on Nursing Home Compare, October 24, 2018, accessed from <https://www.cms.gov/newsroom/fact-sheets/skilled-nursing-facility-snf-quality-reporting-program-qrp-data-nursing-home-compare> on November 15, 2018.
- ¹¹ Better Health While Aging, 5 Types of Medication Used to Treat Difficult Dementia Behaviors, accessed from <https://betterhealthwhileaging.net/medications-to-treat-difficult-alzheimers-behaviors/> on December 19, 2018.
- ¹² United Press International, Sleeping pills may be poor choice for dementia patients, July 25, 2018, accessed from <https://www.upi.com/Sleeping-pills-may-be-poor-choice-for-dementia-patients/1591532568244/> on December 19, 2018.
- ¹³ Wanjiku DePina, C.D.P, Memory Care Director, Wingate Healthcare, The Inn at Silver Lake.
- ¹⁴ Ibid.
- ¹⁵ Wanjiku DePina, C.D.P, Memory Care Director, Wingate Healthcare, The Inn at Silver Lake.