Nurse-Led Hospital Aromatherapy Intervention Reduces Agitation and Falls in Geriatric Behavioral Health Patients

Ten Mendoza, DNP, RN, PMH-BC
Allan Jay Amurao, MS, RN, PHN, PMH-BC

The Link Between Agitation and Falls

Falls among older adults are common, costly, and largely preventable. For adults 65 years and older, falls are the leading cause of injury. According to the CDC, 1 in 4 older adults report falling every year.[1] Inpatient geriatric psychiatry patients are at especially high risk of falls because of underlying behavioral health conditions, cognitive impairment, mobility challenges, and medication side effects.

Agitation is a common contributor to falls, particularly among older adults with dementia and among patients in hospital settings. Patients experiencing agitation may pace, wander, become physically restless, or attempt to move without assistance, all of which increase fall risk.

Falls constitute the largest category of preventable adverse events in hospitals[2] and are very costly. The average cost of a hospital fall has been estimated at $62,521 per event.[3] Medicare does not reimburse hospitals for costs due to injuries resulting from an inpatient fall.

The potential consequences of a fall are broad and multifaceted. For patients, a fall can result in serious injury, reduced quality of life, increased length of hospital stay, increased levels of care, or death. For staff and healthcare facilities, falls increase workload, contribute to staff stress, negatively affect patient satisfaction survey results, and increase the potential for lawsuits.

The increased workload associated with falls extends beyond immediate patient care. Staff must complete extensive documentation and reporting for legal and educational purposes and may need to provide additional vigilance to help prevent future falls. In many cases, additional staff is required to prevent future falls. Nurses often report feelings of responsibility and emotional burden following patient falls that occur under their watch.

Key Findings

- **Average agitation score decreased by 25%, from 5.08 down to 3.81** one hour after application of lavender-sandalwood Elequil Aromatabs
- Participants had **no falls** compared to an average of two falls during the same 2-month period over the previous six years

Patient Encounter Sparks Interest in Clinical Aromatherapy



The nursing team first became aware of Elequil Aromatabs® when a patient transferred from a neighboring hospital arrived wearing a lavender aromatherapy tab. This neighboring hospital used them regularly for patient relaxation. Their literature review found growing support for the use of inhaled aromatherapy as a safe and effective strategy for behavioral and psychological symptoms of dementia (BPSD).[4,5]

Nurses Design Evidence-Based Project

The team designed a two-month project to determine whether the use of lavender aromatherapy among older inpatient adults would decrease anxiety levels and fall rates by promoting relaxation and reducing agitation. The use of aromatherapy would also expand non-pharmacological interventions. This aligns with CMS guidelines to reduce reliance on psychotropic medications, which are commonly prescribed in inpatient mental health settings.

Evaluating the Aromatherapy Intervention

Project Objectives

The nurse-led project was conducted at a 14-bed older adult inpatient mental health unit of a large hospital in San Diego, CA. The unit provides care for persons experiencing behavioral and psychiatric challenges related to dementia, schizophrenia, bipolar disorders, and major depression with concurrent sub-acute medical conditions. All patients were at high risk for falls because of their psychiatric conditions, coexisting medical issues, and treatment regimens, which often involved psychotropic and other medications.

The goal of the project was to determine if lavender aromatherapy would be an effective non-pharmacological nursing intervention to reduce patient agitation and falls among this patient population.

Implementation Process

Twenty-two nursing staff members received education and training on the use of Elequil Aromatabs. Group sessions were conducted followed by individual coaching as needed. Participating staff were also encouraged to use the Aromatabs on themselves for first-hand experience. The educational sessions, both group and individual, continued for two weeks.

Patient agitation was measured using the Behavioral Activity Rating Scale (BARS), a seven-point scoring system used in psychiatric and emergency departments to assess agitation:

1 - Difficult or unable to rouse

2 - Asleep but responds verbally to verbal or physical contact

3 - Drowsy, appears sedated

4 - Quiet and awake, normal level of activity

5 - Signs of overt physical or verbal activity; calms down with instructions

6 - Extremely or continuously active, not requiring restraint

7 - Violent, requires restraint

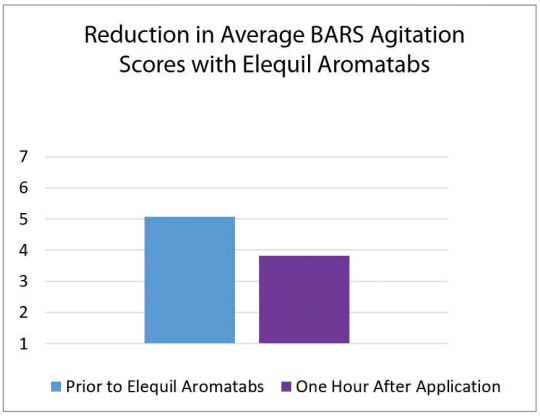
BARS scores were obtained prior to placement of the Aromatabs ("pre" scores) and again one hour after placement ("post" scores). Fall incidence was tracked through routine nursing documentation and shift reports.

Patients were included in the analysis if they used Elequil Aromatabs® for 10 or more consecutive days. A total of 21 patients met the inclusion criteria during a two-month period.

Results

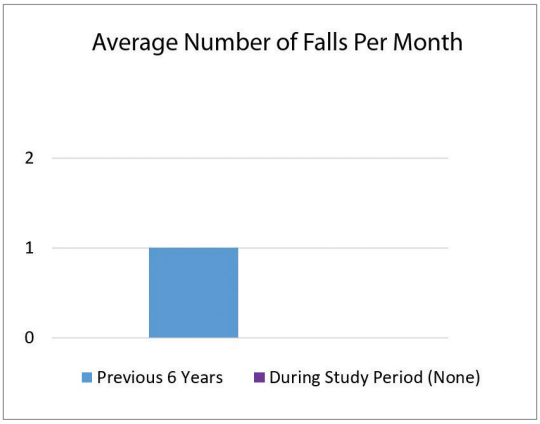
Reduction in Agitation

The average pre-implementation BARS score was 5.08. One hour after application of the lavender-sandalwood Aromatabs, the average BARS score decreased to 3.81. This represents a 25% decrease.



Zero Falls

No falls occurred among the participants during their project period. Historical data from the unit showed an average of one fall per month during a similar two-month period over the previous six years.



Aromatherapy Adopted into Standard Practice

The positive outcomes observed during the project led to the incorporation of Elequil Aromatabs® into standard nursing practice within the older adult inpatient mental health unit, with the majority of patients receiving Aromatabs as part of their routine care.

The results of this project were also shared with other units throughout the hospital to support broader adoption of aromatherapy as a nursing intervention.

"It's great to have aromatherapy in patch form because it's easier to handle and it minimizes infection control concerns."

Practical Nursing Benefits

In addition to the positive patient outcomes observed during the project, Elequil Aromatabs offer several practical advantages:

- Easy hands-free application
- Supports rapid non-pharmacological intervention without the need for a doctor's order
- Minimal disruption to workflow
- Compatible with infection prevention protocols

These operational benefits contributed to staff acceptance and facilitated incorporation of Elequil Aromatabs into routine patient care.

Patients Engage with Aromatherapy

Patient acceptance of aromatherapy was high throughout the project. Many patients asked for Elequil Aromatabs first thing in the morning to help them relax. Some patients asked for additional Aromatabs upon discharge so they could take them home. Notably, there were no instances of patients attempting to consume the Aromatabs, despite the cognitive and behavioral challenges commonly present within this patient population.

Conclusions

Published literature indicates that inpatient older adults have a high rate of falls, with agitation a common contributor. This nurse-led project to implement lavender aromatherapy as a non-pharmacological intervention showed a reduction in patient anxiousness and an improvement in safety as reflected by a 25% decrease in average agitation scores one hour after application of lavender-sandalwood Elequil Aromatabs® and no falls involving study participants during their study period.

Compared to an average of one fall per month in the unit over the previous six years during the same calendar period, this represents a meaningful improvement in patient safety. Inpatient falls represent a significant financial burden for hospitals. At an estimated cost of $62,521[6] per fall, a unit experiencing one fall per month could incur more than $750,000 annually in fall-related costs.

The findings suggest that lavender-sandalwood Elequil Aromatabs may provide a practical, well-accepted, and effective non-pharmacological intervention to help reduce agitation and support patient safety among older adult behavioral health patients.

Furthermore, the successful implementation of this nurse-led initiative demonstrates how the use of Elequil Aromatabs can be integrated into routine clinical practice while supporting guidelines to reduce reliance on psychotropic medications.

About the Authors



Ten Mendoza, DNP, RN, PMH-BC is an ANCC board-certified psychiatric nurse with over 25 years of experience in inpatient mental health care. She earned her Doctor of Nursing Practice degree, as well as Master's degrees in education and business, from Point Loma Nazarene University, and holds a bachelor's degree in psychology from the College of the Holy Spirit, Manila, Philippines. Her clinical expertise is centered on dementia care, milieu management in the role of charge nurse, and the application of therapeutic communication to optimize patient outcomes. Her professional practice is grounded in trauma-informed care principles and a sustained commitment to staff well-being in high-acuity psychiatric environments.

Ms. Mendoza is actively involved in interdisciplinary committees, including fall prevention, research and evidence-based practice, and unit-based councils, contributing to ongoing quality improvement and clinical excellence initiatives. Her current scholarly work examines transgender-affirming care, with an emphasis on advancing staff knowledge, attitudes, and competencies to support the delivery of compassionate care.

In addition to her clinical and academic work, she has received recognition for her poetry and painting, both of which have been featured in professional publications. She values creative expression through dance, piano, and expressive movement, which inform her holistic perspective on healing and human connection.



Allan Jay Amurao, MS, RN, PHN, PMH-BC is an ANCC board-certified psychiatric-mental health nurse with more than seven years of inpatient psychiatric nursing experience. He is also a U.S. Navy veteran and earned his Master of Science in Nursing Leadership from San Diego State University in May 2026.

Mr. Amurao's clinical and scholarly interests include evidence-based practice, behavioral health nursing, non-pharmacological interventions, patient safety, and nurse-led quality improvement. His Clinical Nurse III project focused on lavender aromatherapy education as a non-pharmacological intervention to support anxiety reduction among adult behavioral health patients. Through this work, he aimed to strengthen nursing knowledge, promote holistic patient-centered care, and advance safe, evidence-informed practice in the inpatient behavioral health setting.

Elequil Aromatabs® Aromatherapy

Elequil Aromatabs aromatherapy is a simple non-pharmacological intervention that uses 100% pure essential oils. Elequil Aromatabs aromatherapy has a unique controlled delivery system with easy hands-free application, adheres to the patient's gown or clothing, and allows minimum and maximum aroma exposure.



Lavender-Peppermint
Lasts up to 8 hours

Lavender-Peppermint promotes relaxation during pain, helps comfort and calm anxiousness, and soothes queasiness





Lavender
Lasts up to 8 hours

Lavender-Sandalwood
Lasts up to 24 hours

Lavender and Lavender-Sandalwood promote relaxation during pain, help comfort and calm anxiousness





Orange-Peppermint
Lasts up to 8 hours

Orange-Ginger
Lasts up to 8 hours

Orange-Peppermint and Orange-Ginger uplift and can soothe queasiness

REFERENCES

1 CDC, Older Adult Fall Data, Feb. 26, 2026, retrieved from https://www.cdc.gov/falls/data-research/index.html.

2 Dykes PC, Curtin-Bowen M, Lipsitz S, et al. Cost of Inpatient Falls and Cost-Benefit Analysis of Implementation of an Evidence-Based Fall Prevention Program. JAMA Health Forum. 2023;4(1):e225125. doi:10.1001/jamahealthforum.2022.5125, retrieved from https://jamanetwork.com/journals/jama-health-forum/fullarticle/2800748.

3 Ibid.

4 Po-Hao Wang, Ho-Wei Lin, Truc Tran Thanh Nguyen, Chaur-Jong Hu, Li-Kai Huang, Ka-Wai Tam, Yi-Chun Kuan, Efficacy of Aromatherapy Against Behavioral and Psychological Disturbances in People With Dementia: A Meta-Analysis of Randomized Controlled Trials, Journal of the American Medical Directors Association, Volume 25, Issue 11, 2024, 105199, ISSN 1525-8610, https://doi.org/10.1016/j.jamda.2024.105199, retrieved from https://www.sciencedirect.com/science/article/pii/S1525861024006212.

5 Li BSY, Chan CWH, Li M, Wong IKY, Yu YHU. Effectiveness and Safety of Aromatherapy in Managing Behavioral and Psychological Symptoms of Dementia: A Mixed-Methods Systematic Review. Dement Geriatr Cogn Dis Extra. 2021 Dec 2;11(3):273-297. doi: 10.1159/000519915. PMID: 35082824; PMCID: PMC8739377, retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC8739377/.

6 Dykes PC, Curtin-Bowen M, Lipsitz S, et al. Cost of Inpatient Falls and Cost-Benefit Analysis of Implementation of an Evidence-Based Fall Prevention Program. JAMA Health Forum. 2023;4(1):e225125. doi:10.1001/jamahealthforum.2022.5125, retrieved from https://jamanetwork.com/journals/jama-health-forum/fullarticle/2800748.

AROMATABS, BEEKLEY, BEEKLEY MEDICAL, ELEQUIL, and ELEQUIL AROMATABS are Reg. U.S. Pat. & Tm. Off. AROMATABS and BEEKLEY are registered Community Trademarks. AROMATABS and BEEKLEY are registered trademarks in Canada. © 2026 Beekley Corporation. All Rights Reserved.