Aroma-Massage Therapy

Efficacy of Massage and Aromatherapy for Pain Management in the Elderly

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Abstract

This paper describes the collaboration by two separate nursing homes located in Wisconsin to establish a formal program to deliver therapeutic aroma-massage to residents who were anxious, in pain or had a dementia diagnosis with particular focus to those residents whose care is funded through Medical Assistance. The first year of implementation demonstrates a significant reduction in p.r.n. (taken as needed) pain and anti-anxiety medications. Further, program participants demonstrated increased activity, joint flexibility and improved quality of life.

Research
Review of Literature

The use of essential oils is a highly under-utilized modality for addressing physiological issues in residents in the long-term care facility as well as outside the facility in the general population. The history, benefits and success of essential oil therapy is well-documented and is thousands of years old. It is referenced in the Bible and has been in use in Far Eastern and Central European cultures for centuries. Western Medicine lags far behind in fully utilizing what is commonly referred to as "God's Medicine Cabinet" with the usual mode of treatment to resort to pharmaceutical interventions to resolve evident symptoms.

Aromatherapy is one of the fastest growing therapies in the world today and is defined as the "skilled and controlled use of essential oils for physical and emotional health and well-being."[i] The name "aromatherapy" is deceiving in that the practice includes applications beyond olfactory stimulation and the diffusion of oils in the ambient air. Essential oils are produced by the leaves, roots, stems, fruits or flowers of aromatic plants and are extracted through a process of steam distillation or cold expression. The volatile aromatic substances contain an essence of the plant form.

This process does not "peel the onion" to uncover the underlying physiological issues at hand. As a result the Western culture is one that is grossly over-medicated. This becomes very apparent when a resident is first admitted to a nursing home or assisted living facility and an inventory is taken of current medications the resident is taking. The average nursing home resident receives 8.1 medications administered 2.2 times per day or 17.8 administrations per day. [ii] Further, all medications, by their very nature of being created in the laboratory create side effects to the human body. This is even further compounded when multiple medications interact with each other and react in the human body. Elderly residents are especially susceptible to these reactions as their physiology changes with age and the body can no longer eliminate toxins and chemicals from the body as effectively.

Essential oils are just that, the essential oils within a particular plant that are derived through steam extraction and concentrated to a level that creates a therapeutic effect. More studies are being conducted and information is becoming available on almost a daily basis where these oils are used effectively to treat chronic issues such as headache, nausea, agitation and to manage pain. For the purposes of this research, the organizations utilized Young Living© for the therapeutic grade quality of the product and the amount of documented research to the qualities of the oils.

Consistent use of oils was important to assure that responsiveness to aroma-massage therapy would be measured and to that end, the organizations identified the following essential oils to be effective in addressing specific physiological symptoms in the resident population:

Symptom	Oil
Anxiety	Lavender Peace & Calming Surrender *
Agitation	Peace & Calming Surrender * Harmony *
Pain	Panaway Relieve-It* Orthoease* Orthosport*
Lethargy, Moodiness, Anger	Purification Lemon
Arthritis/Circulatory issues	Peppermint
Mental/emotional unbalance	Valor*
Respiratory	Frankincense*

*Oils used by SPES but not by Brewster

Staff was trained in the initial phase of the study in order to provide a deeper understanding of essential oils and to increase the consistency of the specific types of oils and frequency of application.

The integration of essential oil therapy complements nursing practice from its' earliest days. Florence Nightingale described healing as an innate and natural process and that the purpose of nursing is to place the person in the best condition for this natural process to flourish.[iii]

Research Process

Participants in the grant were selected according to criteria set forth in the initial grant funded through the Community Foundation of the Fox Valley.

All participants were required to have a diagnosis of dementia, or chronic pain and the cost of their care funded through the Wisconsin Medical Assistance Program. The requirement of a diagnosis of dementia was appropriate since the initial grant funding provided by the U.S. Oil Alzheimer's Fund within the Community Foundation of the Fox Valley. Brewster Village supports a higher number of residents on Medical Assistance and the grant recognized this in funding aroma-massage for 20 residents. Fifteen residents were funded for St. Paul Home. When resident turnover occurred during the study period as a result of death or discharge, vacancies were replaced with other residents who met the same criteria.

Each facility employed massage therapists on staff and through the process of applying the grant, the consistency of massage interventions evolved. St. Paul Elder Services was more experienced in

the utilization of aromatherapy and has approximately half of its 129 residents utilizing some form of aromatherapy that includes those who participated in the grant study.

Funding Sources and Community Support

Prior to this study, Brewster Village was successful in receiving a grant from the Community foundation of the Fox Valley to provide massage therapy to a select group of residents whose care was funded by Medical Assistance with the intent of improving their quality of life and increasing their engagement in their daily world. As the initial grant neared its end, Brewster leadership approached leadership at St. Paul to determine whether there was interest in collaborating on an opportunity to seek additional grant funding to expand the program to both campuses.

St. Paul was providing massage therapy to residents on a self-pay basis and had also experienced great success in utilizing aromatherapy, primarily through diffusion within its Memory Care Neighborhoods. It was through these initial discussions that the concept to combine both modalities (massage and aromatherapy) into the ultimate grant request that was approved by the Community Foundation. In this expansion, massage became the means of administering essential oils directly onto the skin for absorption into the circulatory system, thereby maximizing the benefits of the oils.

The Community Foundation approved a grant request in the amount of $77,986 to fund the program for a one year period. The funds were utilized primarily to cover two massage therapists who were assigned to each facility. Brewster Village enrolled 20 residents into the program while St. Paul had enrolled 15. The number of residents funded was based on the overall percentage of Medicaid residents in each facility. Brewster Village housed a larger number of residents funded through Medicaid than St. Paul hence the larger number of residents enrolled in this program.

At the initial start-up of the study, staff from both facilities came together to identify the measurement tools that would be used during the study and to identify the oils that would be used with the residents. The team also developed policies and procedures along with required approvals and releases that would authorize residents to participate. These were signed either by the resident if they were competent or their legal representative or Health Care Power of Attorney.

Findings

During the implementation of this program, Brewster Village and St. Paul Elder Services have both documented a reduction in the use of PRN pain medications and in symptoms of anxiety and resistive behaviors by participants in the program. This is directly related to and has furthered both organizations' mission to provide person-centered care that maximizes reach individual's ability to function to their maximum potential. The participant's chronic pain management was improved; thereby affording an improved quality of life and a resulting enhanced and greater capacity to actively engage with their social environment. The participants reported that some degree of the psychological burden of their chronic pain was alleviated. Individual participants reported about their massage/aroma sessions. The following anecdotal responses were documented by the massage therapists and clinical staff:

S.K. "They are wonderful. I've never been more relaxed in my life. It takes my pain away for awhile. The therapist is very good and very knowledgeable. I appreciate them very much."

J.K. “My whole attitude is different on massage days. I sleep better on those nights. I feel very good and very relaxed. They really improve my quality of life. The therapist’s personality is so stimulating.”

L.S.B. “The therapy sessions are so comforting. The therapist is so super. It makes you feel warm and pleasant for the rest of the day. I have so much pain in my back and that relieves it. I really sleep better after getting my massages. I wish I could get more.”[iv]

V.J. Massage Therapist notes: “Beginning of massage, breathing was labored, whistling and at end of massage nice, even breaths.”

A.K. -hospice patient Massage therapist notes: “Prior to massage had heaving breathing and sighs. Complained of being in pain. At conclusion of massage more even breathing and pain appeared decreased. Very calm.”[v]

Data

Data collection took place from February 20090 through January 2010. Pain medications that were ordered by each resident’s physician on a PRN (whenever necessary) basis were monitored on a monthly basis. The tables that follow show monthly reductions for each location, separately and combined.

Brewster Village

Month 2009	**Number of PRN Medications**	**% Reduction**
January	282	
February	218	-22.6%
March	223	-20.9%
April	269	-4.6% (5 clients added)
May	243	-13.7%
June	219	-22.3% (1 client added)
July	166	-41.1%
August	167	-40.7%
September	127	-54.9% (3 clients off, 1 new added)
October	143	-49.2%
November	147	-47.8%
December	122	-56.7%
January	180	-36.1%

St. Paul Home

Month 2009	Number of PRN Medications	% Reduction
January		SPES started in 2/09
February	94	
March	58	-37%
April	68	-28%
May	73	-22%
June	59	-37%
July	56	-40%
August	70	-26%
September	76	-19%
October	61	-35%
November	42	-55%
December	39	-58%
January	26	-72%

Combined

(February 2009 through January 2010)

Month	Number of PRN Medications	% Reduction
February	312	
March	281	-10%
April	337	-.08%
May	316	-.01%
June	278	-11%
July	222	-29%
August	237	-24%
September	203	-34.9%
October	204	-34.6%
November	189	-39.4%
December	161	-45.8%
January	206	-33.9%

Neuropsychiatric Inventory Scores

St. Paul Home

Score	February 2009	January 2010
Below 20	9	12
20-50	5	3
50 or more	1	0

Conclusions

The first and immediate finding is that the value and power of the therapy sessions is profound. The participants came to value them so highly that they structured their days and weeks around them. For some of the participants it soon became clear that this was not frequent enough. Three sessions per week would clearly have greater benefit. It also became apparent that both organizations needed to become more consistent in the types of oils used for specific outcomes to address physiologic conditions. Through this study, specific protocols have been established for consistent use by the therapists.

Research Environments

Brewster Village is licensed by the State of Wisconsin as a skilled nursing facility with the capacity to serve 204 residents. Owned and operated by Outagamie County, Brewster Village serves a unique population of residents with chronic mental illness and developmental disabilities in addition to a population of seniors requiring skilled nursing care and specialized memory care. Approximately 60% of the residents who reside at Brewster Village have their care funded through the Wisconsin Medical Assistance Program.

Essential to the practices that achieve the highest quality of life for our clientele is our mission, vision and guiding principle statements.

Brewster Village Mission Statement: Brewster Village provides short and long term nursing home services to create person-centered, residential experiences that are designed to meet individuals' social and medical needs.

Brewster Village Vision Statement: Brewster Village will excel at being a community where individuals receive services that emphasize independence and freedom of choice so that they continue to lead productive and fulfilling lives.

Brewster Village Guiding Principles: Brewster Village provides short and long term nursing home services to create person-centered, residential experiences that are designed to meet individuals' social and medical needs.

1. Brewster Village will maximize the health, independence, self-esteem, and intrinsic worth of each individual.
2. Brewster Village will promote person-centered care by encouraging resident choice and advocating for the rights of all individuals.
3. Brewster Village staff will collaborate with families, guardians and other community resources to address the social and medical needs of each individual.

4. Brewster Village staff will function as a team, displaying a positive, professional attitude while treating residents, families, visitors and co-workers with dignity and respect.
5. Brewster Village will recognize staff as valuable resources and encourage continuous staff development to enrich their contributions.
6. Brewster Village will adhere to applicable regulations and guidelines as well as properly manage available resources.[vi]

St. Paul Elder Services, located in Kaukauna, Wisconsin is sponsored by the Franciscan Sisters of Christian Charity and has been in operation since 1939. The organization provides a broad continuum of services including assisted living, skilled nursing, hospice, adult day service and home and community based services. The target population for the purposes of this grant resided in St. Paul Home, a 129-bed skilled nursing home. Approximately 50% of St. Paul Home residents care is funded through the Wisconsin Medical Assistance Program.

St. Paul Elder Services Mission Statement: We are a Catholic sponsored community dedicated to enriching the life experience.

St. Paul Elder Services Vision Statement: We will continue to provide excellent care through the efforts of dedicated staff, enthusiastic volunteers and generous contributors.

St. Paul Elder Services Values Statement: Our mission and ministry flow from the gospel values of dignity, compassion, respect, hospitality and stewardship.

Appendix A

Tools

#1 - Neuropsychiatric Measurement Inventory

The Team identified the Neuropsychiatric Inventory as the document for gathering objective data on the effectiveness of the oils and massage. The Neuropsychiatric Inventory (NPI) is a questionnaire that assesses changes in behavioral and psychological disturbances in a patient for whom a diagnosis of dementia has been made. The evaluation is performed at four or six weekly intervals. The NPI assesses 12 different indicators of a patient's neuropsychiatric symptoms. Each indicator is scored and assigned a value as follows:

A score is given on the basis of information provided or observed that answers either YES (if symptoms are present) or NO (if symptoms are absent).

NPI Scoring

<table>
<tr><th>Symptom</th><th>Observation</th></tr>
<tr><td>Delusions (paranoia)</td><td rowspan="4">'NO' indicates there is no abnormal behavior or abnormal behavior did not change.

For example, the caregiver indicates that his or her spouse is not anxious or he/she did not become more anxious since he/she suffered from dementia.</td></tr>
<tr><td>Hallucinations</td></tr>
<tr><td>Agitation or aggression</td></tr>
<tr><td>Dysphoria (depressed mood)</td></tr>
<tr><td>Anxiety</td><td rowspan="4">'N/A' indicates not applicable that the examiner goes to the next section or item.</td></tr>
<tr><td>Apathy</td></tr>
<tr><td>Irritability</td></tr>
<tr><td>Euphoria</td></tr>
<tr><td>Disinhibition</td><td rowspan="3">'YES' indicates the appearance or changes in abnormal behavior that is rated by the caregiver for frequency (how often the symptom affects the patient) and severity (how the symptom affects the patient).

For example, the caregiver indicates that the</td></tr>
<tr><td>Aberrant motor behavior</td></tr>
<tr><td>Night-time behavior disturbances</td></tr>
</table>

Appetite and eating abnormalities	resident/patient became even more depressed since his/her last interview.

Rating Scale

Score	Frequency	Severity
1	Occasionally, less than once a week	Mild (noticeable, but not a significant change)
2	Often, about once a week	Moderate (significant, but not a dramatic change)
3	Frequently, several times per week but less than every day	Severe (very marked; a dramatic change)
4	Very frequently, once or more per day	Not Applicable

The total score is obtained by summing the scores that refer to each of the 12 items. Each of the 12 scores is calculated by multiplying frequency and severity. For example 'often, about once a week' and 'moderate' = 4. Total score ranges from 1 to 144 with 144 being the worst possible score.

< 20	Mild
20 - 50	Moderate
>50	Severe

#2 - Evaluation of the Impact of These Symptoms on Caregivers

For each of the twelve neuropsychiatric symptoms, caregiver stated the level of distress they experienced on a scale from 0 (none) to 5 (very severe):

- 0 point : Distress
- 1 point : Minimal (slightly distressed)
- 2 points: Mild (not very distressing, generally easy to cope with)
- 3 points: Moderate (fairly distressing, not always easy to cope with)
- 4 points: Severe (very distressing, difficult to cope with)
- 5 points: Extreme or very severe (extremely distressing, unable to cope with)

Total score for caregiver distress ranges from 1 to 60 (60 is the worst possible score).

Symptom Descriptors	
Delusions	a. The patient believes that others are planning to harm him or her in some way. He/she believes that others are stealing from him or her. He/she says that family members are not who they say they are. b. The patient is not only suspicious; he/she is convinced these things are happening to him/her.
Hallucinations	a. The patient acts as if he/she hears voices. He/she talks to people who are not there. He/she seems see, hear or experience things that are not present (this behavior is different from that which consists in believing that a person is still alive).
Agitation/ Aggression	a. The patient has periods when he/she refuses to cooperate or when he/she is resistant to help from others. He/she is hard to handle.
Depression/Dysphoria*	a. The patient seems sad or in low spirits. He/she says that he/she feels depressed. He or she cries.
Anxiety	a. The patient is very nervous, worried, or frightened for no apparent reason. He/she is very tense or fidgety. The patient becomes upset when separated from object.
Elation/Euphoria	a. The patient has a persistent and abnormally good mood (i.e. he/she feels too cheerful or acts excessively happy) for no reason.
Apathy/Indifference	a. The patient seems less interested in the world around him/her, in his or her daily activities. He/she lacks motivation for starting new activities. He/she is more difficult to engage in conversation.

Disinibition	a. The patient seems to act impulsively. He/she does or says things that are not usually done or said in public. He/she does things that are embarrassing to people, or that may hurt people's feelings. He/she talks to strangers as if he or she knows them.
Irritability/Liability	a. The patient gets irritated and easily disturbed. His/her moods are very changeable. He/she is abnormally impatient and cranky.
Aberrant Motor Behavior	a. The patient engages in repetitive activities (e.g. pacing), does things repeatedly (e.g. opening closets or drawers), or wraps strings or wind threads.
Sleep	a. The patient has difficulty sleeping. He/she wanders at nights, gets dressed, awakens during the night, rises too early in the morning, takes excessive naps during the day.
Appetite eating disorder	a. He/she has had any change in appetite or eating habits (rate N/A if the patient cannot feed himself). The patient has lost or gained weight.[i]

*Dysphoria: Mood disturbance associated with anxiety.

Notes

[i] Holistic Foundations of Aromatherapy for Nursing, Marlaine C. Smith, PhD, RN, AHN-BC, FAAN, Laraine Kyle, MS, RN, CMT, CAT

[ii] The Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill, Nursing Home Medication Error Quality Initiative Report: Year 3, October 1, 2005 to September 30,2006

[iii] Smith and Kyle (ibid)

[iv] Brewster Village Final Report to Community Foundation of the Fox Valley (February, 2010) J. Marks

[v] St. Paul Elder Services Aromatherapy Grant Positive Comment Review (August, 2009)
[vi] Brewster Village <http//www.brewstervillage.org