Abstract:

Acupuncture, a core component of Traditional Chinese Medicine is an effective mode of treatment for many chronic ailments including depression, pain, addiction, and stroke, with virtually no side effects in competent hands. The acupuncture Pilot Study for Persons with Dementia is the first study in the United States to examine acupuncture as a treatment for Alzheimer's Disease (AD) and Vascular Dementia (VD). Funded by the Helen Bader Foundation, the pilot study was conducted from 1997 to 1999 at Wellesley College Center for Research on Women. The study, with 11 participants and no controls, demonstrated that acupuncture was a feasible and effective treatment for depression and anxiety in Americans with AD or VD. All enrolled participants completed at least 22 acupuncture needling treatments, and all required evaluations. Using paired sample t-tests, statistically significant improvements were found in three of the four scales used to assess acupuncture's effect on mood.

Background:

Acupuncture: What Is It?
- Acupuncture is a core component of Traditional Chinese Medicine; a healing art first developed over 3,000 years ago in China.
- Acupuncture is based on the theory that energy, or Qi (pronounced "chee"), must flow freely throughout the body for optimal health.
- Illness is seen as arising from imbalances in this energy such as Qi "stagnation" or Qi "deficiency".

What Do We Know about Dementia based on Western Research?
- 70% of community-dwelling persons with AD have anxiety symptoms.
- 54% have comorbid symptoms of anxiety and depression.
- ADL functioning and behavioral problems are strongly correlated with anxiety and depression (Teri, et al, 1999).

What Do We Know about Acupuncture for Cognitive Intact People?
- Effective in relieving depression (Allen, et al, 1998).
- Effective in relieving anxiety (Dong, 1993).
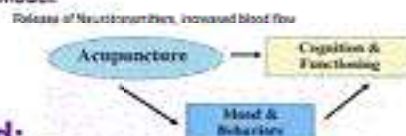- Effective in increasing blood flow to and within the brain (Naeser, 1997).

What Do We Know about Acupuncture for Persons with Dementia?
Chen, 1992 (N=11, no control)
- More effective with persons with VD than those with AD.
- Improved cognition in some subjects with AD and VD.
- Relieved depressive symptoms in some subjects with AD and VD.
- Improved temperament of some subjects with AD and VD.
- Relieved about 1/2 cases of vertigo, tinnitus, and headache in persons with AD.

Zhen-Ya, et al, 1999 (N=30, with control)
- 87% of treatment group showed 27% improvement on MMSE and 1 grade improvement on GDS.
- There were no changes in the control group.

Kao, et al, 2000 (N=8, no control)
- MMSE significantly improved (overall, motor coordination, and verbal orientation).

Research Hypothesis:

- Acupuncture can be an effective treatment modality for treating co-morbidities such as anxiety, depression, insomnia, and behavioral symptoms.
- Acupuncture can increase cognitive functioning (or slow the decline), self-care or ADL/IADL functioning.
- Acupuncture can improve the participants' quality of life and that of their caregivers.

Conceptual Model:

Release of Neurotransmitters, increased blood flow

Method:

Participants (N=11)
- Eligibility criteria included diagnosis of probable AD or VD, age of 55 or older, and baseline MMSE of 15 or greater.
- Excluded those with severe AD, poor health, or bleeding issues.

Study Design
- 2-3 acupuncture treatments/week for 3 months (total of 22-26 treatments).
- Participants were assessed with established measures 3 times during the course of the study.

Acupuncture Protocol
- Acupuncture treatment protocol was devised by team of US and China trained acupuncturists.
- The team created a list of primary and secondary points.

Primary acupoints
GB9, GV16, GV20, GV23, GV24, PC6, HT7, SP6, Sishencong, and Yintang

Secondary acupoints
ST36, LI4, GB20, GV17, SP4, KI3, SI3, BL62, BL23, GV26, and the cervical and thoracic Huato Jiaji points

Measures:

Anxiety
- Profile of Mood Status (POMS)
- Spielberger State-Trait Anxiety Inventory (STAI)

Depression
- Geriatric Depression Scale (GDS)
- Cornell Scale for Depression in Dementia (CSDD)

Cognitive Impairment
- Mini-Mental Status Exam (MMSE)
- Controlled Oral Word Association Test (FAS)
- Boston Naming Tesyt (BNT)

Mood, Vitality, Function, and Overall Health
- MOS 36-item Short Form Health Survey (SF-36)

Results:

Feasibility Outcomes
- All 11 participants remained in the study.
- 82% were satisfied with the treatment results.
- 64% reported that acupuncture was enjoyable.
- Only three participants reported that there was pain, but tolerable, during the treatment.
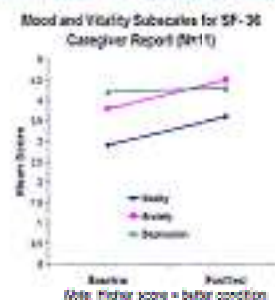
Effectiviness Outcomes
- Anxiety - significant improvement in both POMS and STAI.
- Depression - significant improvement in CSDD.
- Cognition - No significant changes.

Results of Paired T-Tests of Anxiety, Depression, and Cognition (N=11)

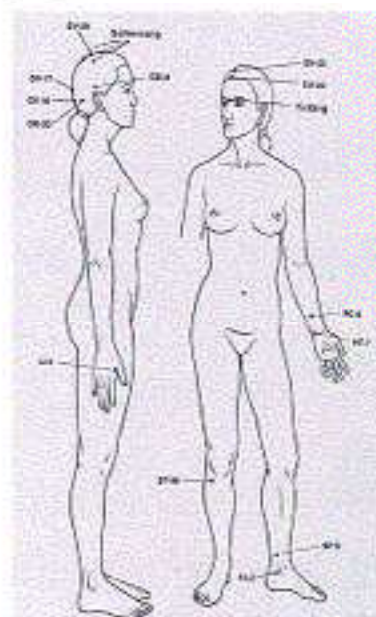|	Anxiety		Depression		Cognition		
	POMS	STAI	CSDD	GDS	MMSE	BNT	FAS
Baseline Mean (S.D.)	8.3 (5.5)	40.5 (8.4)	6.4 (5.0)	7.4 (3.3)	21.9 (5.2)	37.5 (12.0)	25.4 (17.1)
Post/Test Mean (S.D.)	4.0 (3.4)	40.1 (9.8)	3.1 (3.0)	6.7 (7.0)	21.3 (4.9)	36.1 (13.8)	25.5 (17.8)
p-value Paired T-test	.050	.003	.011	.350	.646	.639	.956

Note: One-tailed test for mood (predicted improvement), Two-tailed in cognition (no prediction)

- Mood, Vitality, Function, and Overall Health - Caregiver Report (but not Patient Self Report) indicated significant improvement in patients' vitality and anxiety (SF-36).

Mood and Vitality Subscales for SF-36
Caregiver Report (N=11)

Note: Higher score = better condition

Conclusion:

All 11 participants, 10 with AD and 1 with VD, completed at least 22 treatments during the three month study. We found statistically significant improvements in the participants' depressive and anxious mood symptoms, confirmed with multiple measures, including the CSDD, the STAI, the POMS, and mood subscale of the MOS SF-36. For example, the STAI anxiety score significantly declined from 6.4 to 3.1. Despite a small number of the participants, our data indicated robust outcomes. It is also encouragong that there was no significant cognitive decline (e.g., MMSE from 21.9 to 21.3). As we hypothesized, the study results showed that acupuncture is a feasible and effective tresatment for anxiety and depression in Euro-American with early-stage AD or VD.

Most Commonly Used Acupoints